



**FLORIDA DEPARTMENT *of*  
ECONOMIC OPPORTUNITY**

**2012**

**Florida Keys Area of Critical State Concern  
Annual Report**



**Division of Community  
Planning and Development**  
Areas of Critical State Concern  
Program

# Annual Report

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Rick Scott  
GOVERNOR



Hunting F. Deutsch  
EXECUTIVE DIRECTOR

**FLORIDA DEPARTMENT *of*  
ECONOMIC OPPORTUNITY**

November 20, 2012

The Honorable Rick Scott, Governor  
The Capitol  
Tallahassee, Florida 32399-0001

Pam Bondi, Attorney General  
The Capitol  
Tallahassee, Florida 32399-1050

Adam Putnam, Commissioner of Agriculture  
The Capitol  
Tallahassee, Florida 32399-0810

Jeff Atwater, Chief Financial Officer  
The Capitol  
Tallahassee, Florida 32399-0300

Re: 2012 Florida Keys Area of Critical State Concern Annual Report

Dear Governor and Members of the Administration Commission:

Pursuant to Section 380.0552(4)(b), Florida Statutes (F.S.), the Florida Department of Economic Opportunity (Department) is pleased to transmit its 2012 Florida Keys Area of Critical State Concern Annual Report. Section 380.0552(4)(b), F.S., requires the preparation of a report that describes the progress of the Florida Keys Area of Critical State Concern toward completing the tasks of the Work Program.

The Administration Commission issued a report on February 17, 2012, to Monroe County, the City of Marathon and the Village of Islamorada outlining the strategies necessary for completion of Work Program tasks. The report was issued in the form of a table detailing the strategies and the tasks with the relevant target dates for completion.

The Department's report includes information submitted by Monroe County, the City of Marathon, the Village of Islamorada, the Key Largo Wastewater Treatment District, the Florida Department of Health, the Florida Department of Environmental Protection, and the Florida Fish and Wildlife Conservation Commission. Based upon this input, the Department's own review, and coordination with the local governments on the chief findings, the attached report is provided for your consideration.

The Department has evaluated the information provided by the local governments and state agencies against the Administration Commission Report and the Work Program requirements. The Department recommends that the City of Marathon, the Village of Islamorada and Monroe County have made substantial progress towards accomplishing the strategies of the Administration Commission Report.

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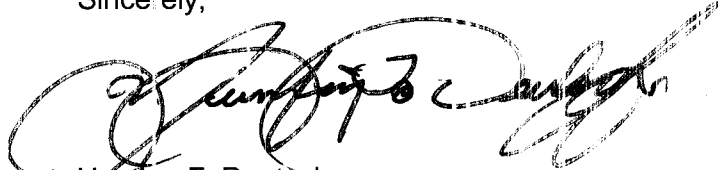
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In accordance with its statutory charge found in Section 380.0552(4)(c), F.S., the Department recommends the following actions:

- (1) Accept the Department's 2012 Annual Report for Monroe County, the City of Marathon and the Village of Islamorada;
- (2) Continue the Florida Keys Area of Critical State Concern designation in order to complete the Work Program requirements;
- (3) Accept the Department's recommendation that substantial progress toward accomplishing the strategies of the Work Program has been achieved for Monroe County, the City of Marathon, and the Village of Islamorada; and
- (4) Accept the Department's recommendation of a building permit allocation of 3,550 units to be distributed among the local governments of the Florida Keys with a provision that the City of Key West would transfer annually (by July 15th) any remaining allocations for the year to the other local governments.

The Department appreciates the efforts of the local governments and looks forward to continuing our cooperative relationship with the Florida Keys communities and working with all parties to fully achieve the goals of the Work Program.

Sincerely,



Hunting F. Deutsch  
Executive Director

HD/rj

Enclosures: Department of Economic Opportunity 2012 Florida Keys Annual Report

cc: The Honorable David Rice, Mayor, Monroe County  
The Honorable Mike Cinque, Mayor, City of Marathon  
The Honorable Ken Philipson, Mayor, Islamorada, Village of Islands  
The Honorable Craig Cates, Mayor, City of Key West  
The Honorable Ron Sutton, Mayor, City of Key Colony Beach  
The Honorable Norman Anderson, Mayor, City of Layton

**Florida Keys Annual Report  
for the Period July 2011 – July 2012**

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The Florida Keys Area of Critical State Concern designation includes the local governments of unincorporated Monroe County, the Cities of Marathon, Layton, and Key Colony Beach and the Village of Islamorada. The City of Key West challenged the designation as a Critical Area and after litigation in 1984 was designated an Area of Critical State Concern under a separate designation. Only unincorporated Monroe County, Marathon, and Islamorada have Work Program Tasks that have been adopted by a current Administration Commission rule. This report, however, includes an evaluation of the current hurricane evacuation clearance time required for all local governments within the Florida Keys and recommendations to address future building permit allocations for all six local governments. Four of the six local governments have adopted building permit allocations. Both Key West and Key Colony Beach must submit comprehensive plan amendments to establish the annual building permit allocation.

Section 380.0552(4), Florida Statutes (F.S.), directs the Department of Economic Opportunity (Department), acting as the state's land planning agency, to submit an annual report to the Administration Commission, describing in detail the progress of the Florida Keys Area of Critical State Concern toward accomplishing the tasks of the Work Program and to provide a recommendation as to whether substantial progress toward accomplishing the tasks have been achieved. Section 380.0552(4), F.S., provides that:

- (b) Beginning November 30, 2010, the state land planning agency shall annually submit a written report to the Administration Commission (Commission) describing the progress of the Florida Keys Area toward completing the work program tasks specified in Commission rules. The land planning agency shall recommend removing the Florida Keys Area from being designated as an area of critical state concern to the Commission if it determines that:
  - 1. All of the work program tasks have been completed, including construction of, operation of, and connection to central wastewater management facilities pursuant to section 403.086(10), F.S., and upgrade of onsite sewage treatment and disposal systems pursuant to section 381.0065(4)(1), F.S.;
  - 2. All local comprehensive plans and land development regulations and the administration of such plans and regulations are adequate to protect the Florida Keys Area, fulfill the legislative intent specified in section 380.0552 (2), F.S, and are consistent with and further the principles for guiding development; and
  - 3. A local government has adopted a resolution at a public hearing recommending the removal of the designation.

(c) After receipt of the state land planning agency report and recommendation, the Administration Commission shall determine whether the requirements have been fulfilled and may remove the designation of the Florida Keys as an area of critical state concern. If the commission removes the designation, it shall initiate rulemaking to repeal any rules relating to such designation within 60 days. If, after receipt of the state land planning agency's report and recommendation, the Commission finds that the requirements for



Bahia Honda State Park

recommending removal of designation have not been met, the Commission shall provide a written report to the local governments within 30 days after making such a finding detailing the tasks that must be completed by the local government for the following year.

## Findings

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This narrative should be used in combination with the Administration Commission's 30-Day Report Matrix to expedite review. The narrative provides a recap of work tasks and focuses on sewer connections, hurricane evacuation modeling and recommendations regarding the number of future building permit allocations for each local government within the Florida Keys. The 30-Day Report Matrix contains the status of each Work Program task in the third column as either "achieved" or "not achieved". The 30-Day Report Matrix includes comments and information submitted by the local governments, utilities, and commenting state and federal agencies.



## Status of Work Program Task Achievement

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### Village of Islamorada

#### Completed Tasks for 2012

The Village of Islamorada completed ten out of ten tasks targeted for completion during 2012 (100%). The primary objective of the Village of Islamorada was to engage a wastewater contractor in sufficient time to meet the September 2012 deadline to utilize bond financing made available by the Legislature in the 2012 Legislative Session. The Village was successful in obtaining the issuance of \$20 million in bond financing under the Save Our Everglades Program. The Village entered into a contract with the Key Largo Wastewater Special District to accept,



Groundbreaking Ceremony Islamorada Wastewater Project October 2012

treat and dispose of wastewater generated in Islamorada at a cost of \$10.6 million. The Village has executed a contract to construct the transmission main and collection lines and work began in October 2012. The Village currently has one wastewater facility at North Plantation Key and has connected 13% of the potential Equivalent Dwelling Units (EDU) city-wide. Since last year's annual report, EDU connections increased by 8%. Although recently constructed, the North Plantation Key Wastewater Facility requires some modifications to correct back flow problems before additional connections will be made. The Village has allocated \$44.3 million in the capital improvements budget for wastewater and submitted a grant application to the National Fish and Wildlife Foundation for another \$250,000 for water quality improvements.

The Village participated in the Hurricane Evacuation Workshops and executed the Memorandum of Understanding regarding the variables and assumptions to be used in hurricane evacuation modeling.

The Village was successful in obtaining funding from the U.S. Army Corps of Engineers for the acquisition of four lots which will provide sites for wastewater lift stations. While the Village technically achieved the goal of applying for land acquisition grants, the intent of the goal is to seek grants to purchase environmentally sensitive land to protect habitat and to reduce the supply of vacant buildable lots. The Village received four requests from applicants who have been unable to obtain a building permit allocation for the last four years. No purchase offers were made and four building permit allocations were granted.



Anne's Beach

### **Incomplete Tasks for 2012**

None.





## City of Marathon

### Completed Tasks for 2012

The City of Marathon completed 18 out of 21 tasks targeted for completion during 2012 (86%). The City continues to excel in completing connections to wastewater facilities. Marathon completed the installation of wastewater collection lines to Sub-Area 6 and built the Sub-Area 7 wastewater plant and collection lines. Notices to initiate connections were mailed to Sub-Area 3 and approximately 36% of the connections have been made. To date, Marathon has connected 48% of those targeted to receive wastewater services. Since last year's annual report, EDU connections increased by 24%.



Pigeon Key

The City eliminated stormwater outfalls at three streets containing direct discharges to Florida Bay and completed stormwater improvements in Sub-Areas 5 and 7. The City has established a stormwater utility tax to further water quality improvements.



Marathon participated in the Hurricane Evacuation Workshops and executed the Hurricane Evacuation Memorandum of Understanding.

No administrative relief applications were received by the City from applicants who have waited four years to receive a building permit. In recent years, many applicants have requested deferrals to a future date to accept an award for a building permit.

## **Incomplete Tasks for 2012**

While the City did not apply for grants for wastewater as required by the Work Program, the City has recently converted \$23.9 million in commercial bank loans to loans funded by the Department of Environmental Protection from the Clean Water State Revolving Fund to reduce interest costs. Additional grants from Federal and/or State agencies would reduce the overall sewer costs and debt to the City. Additional grants from Federal and/or State agencies would reduce the overall sewer costs and debt to the City. The City has taken a progressive approach to wastewater funding to achieve their goals.

The City did not apply for land acquisition grants to purchase environmentally sensitive land. The City petitioned the Acquisition and Restoration Council requesting that Boot Key remain on the Florida Forever targeted acquisition list. The Council agreed to retain the island on the Priority One acquisition list.

The City did not meet the projected number of connections of 100% for Sub-Area 3, but was able to complete 36% of the connections.



**Boot Key Harbor**

## Monroe County

### Completed Tasks for 2012

Monroe County completed 19 out of the 28 tasks targeted for completion (68%). The County participated in the Hurricane Evacuation Workshops, executed the Memorandum of Understanding and adopted a comprehensive plan amendment to discourage increases in density on the Future Land Use Maps.

The Monroe County Land Authority purchased 73 Tier I lots and four Tier II lots. Four applications for Administrative Relief were reviewed for applicants that had waited four years to receive a building permit allocation. All four applicants rejected offers for purchase and were awarded building permit allocations. The Monroe County Land Authority applied to the U.S. Army Corps of Engineers for land acquisition grants and received \$67,000.



**Key Largo Wastewater Treatment Plant**

With regard to the provision of wastewater, the County has connected 80% of the potential connections at Big Coppitt and 72% of the possible connections at Hawks Cay. The Key Largo Wastewater Facility increased the number of EDU connections from 7,859 to 11,525. The total connections represent 56% of those targeted for completion within unincorporated Monroe County. Since last year's annual report, the EDU connections increased by 26%.

The County requested wastewater financing under the Save Our Everglades Program and was awarded \$30 million for the construction of the Cudjoe Wastewater Facility. This facility will serve Big Pine Key to Lower Sugarloaf Key. The County must execute a contract for the expenditure of the funds by March 2013 to maintain the funding. In November 2012, the County held a referendum which extended the local Infrastructure Sales Tax to generate additional funding for the construction of the Cudjoe Facility. The Cudjoe Facility is divided into two service areas, referred to as inner and outer service areas. The plant has been designed and bids for construction were awarded in November 2012 and contracts will be awarded in December 2012.



## Incomplete Tasks for 2012



**Bikers on Florida Keys Overseas Heritage Trail**

Two tasks that were not completed by the County due to funding constraints pertain to the Cudjoe Regional Wastewater Treatment Plant. The design of the inner collection and transmission system and the design of the outer collection and transmission system were not achieved during the evaluation period. Instead, the County focused efforts on obtaining the approval of bond financing through the Save Our Everglades Program. The Florida Legislature approved \$30 million in bond financing in 2012 to facilitate construction of the Cudjoe Facility with a connection fee that is commensurate with that charged countywide. As previously stated, in November, the voters in the County approved a referendum to extend the infrastructure sales tax to further supplement the funding for Cudjoe and other County capital improvements. The County, through its statutory partner, the Florida Keys Aqueduct Authority, has requested bids for the construction of the Cudjoe plant and design of the outer collection system with bid opening scheduled for award on December 19, 2012. Requests for proposals for the design of the Cudjoe collection system for the inner islands and bids for the construction of the treatment plant were opened in November 2012. These actions demonstrate continuing progress although the tasks were not achieved during the report period.

The County did not formally apply for grant funding for wastewater as required by the Work Program. Inquiries were made to the Florida Keys Water Quality Improvement Program without success. The County did not include funding for stormwater improvements in the last Capital Improvements Element.

Additionally, the County did not submit a plan amendment adopting goals, objectives, and policies for Goal 106 (Tier System). The specific Work Program task addressing this item contains the following:

- update habitat maps at periodic intervals to evaluate the tier overlay system;
- the creation of a tier review committee;
- evaluation of the updated tier maps concurrent with the evaluation of the comprehensive plan; and
- adoption of the tier overlay maps into the comprehensive plan.

While the County did not submit the plan amendment regarding the updated habitat maps, a Tier review committee was convened in 2011 to review the unadopted habitat maps, and the County

amended the Tier Overlay maps for approximately 3,000 parcels that had been challenged by an environmental group. The County will conduct additional public hearings on November 28, 2012, to designate offshore islands and other areas that did not previously receive a tier designation.

County planning and legal resources were diverted away from this task due to an unavoidable issue with the U.S. Fish & Wildlife Service (FWS) and the Federal Emergency Management Agency (FEMA) to implement a settlement agreement which those federal agencies had entered into with environmental groups to resolve Endangered Species Act litigation that had started in 1990. (*Florida Key Deer v. W. Craig Fugate, et al.*, 90-10037-CV). That litigation had resulted in the U.S. District Court's 2005 entry of an injunction against the issuance of flood insurance on approximately 55,000 parcels in Monroe County thought to contain habitat for endangered species. In consultation with FEMA and FWS, the county and cities adopted additional protocols for reviewing proposed development to ensure consistency with the Endangered Species Act. As a result of its settlement agreement in this case, FEMA imposed a deadline of June 30, 2012 on the County to complete this process in order to avoid the suspension of the County from the National Flood Insurance Program.



The County indicates the Tier overlay maps will be adopted into the comprehensive plan when the challenge period for the maps adopted in November 2012 has elapsed.



## **Recommendations**

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Section 380.0552(4)(b), F.S., directs the Department to provide a recommendation regarding whether substantial progress has been made towards accomplishing the tasks of the work program. The Department makes the following recommendations:

- (1) Accept the 2012 Annual Report for Monroe County, the City of Marathon and the Village of Islamorada;
- (2) Continue the Florida Keys Area of Critical State Concern designation in order to complete the Work Program requirements;
- (3) Accept the Department's recommendation that substantial progress toward accomplishing the strategies of the Work Program have been achieved for Monroe County, the City of Marathon, and the Village of Islamorada; and
- (4) Accept the Department's recommendation of a building permit allocation of 3,550 units to be distributed amongst the local governments of the Florida Keys with a provision that the City of Key West would transfer annually (by July 15<sup>th</sup>) any remaining allocations for the year to the other local governments.

## History

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In 1972, the Florida Legislature adopted the Environmental Land and Water Management Act which provided the basis for the State to designate an Area of Critical State Concern. To be designated, an area must contain, or have a significant impact upon, environmental or natural resources of regional or statewide importance where uncontrolled private or public development would cause substantial deterioration of such resources<sup>1</sup>. Examples of resources of regional or statewide significance include: state or federal parks, forests, wildlife refuges, wilderness areas, aquatic preserves, major rivers and estuaries, state environmentally endangered lands, Outstanding Florida Waters, and aquifer recharge areas. The Act was adopted prior to the 1985 Growth Management Act at a time when most local governments did not have programs and personnel to guide development in a manner that would ensure that natural resources would be protected.

The Legislature designated the Florida Keys (Monroe County and its municipalities) as Areas of Critical State Concern due to the areas' environmental sensitivity and mounting development pressures. The legislative intent was to establish a land use management system for the Florida Keys that would:

- Protect the natural environment and improve the near shore water quality;
- Support a diverse economic base that promotes balanced growth in accordance with the capacity of public facilities;
- Promote public land acquisition and ensure that the population of the Florida Keys can be safely evacuated;
- Provide affordable housing in close proximity to places of employment; and
- Protect property rights and promote coordination among governmental agencies that have permitting jurisdiction.

In the early 1990s, Monroe County revised its Comprehensive Plan to be consistent with the 1985 Growth Management Act. The Plan drew legal challenges from numerous parties, with litigation lasting several years. In 1996, the litigation was resolved through a stipulated settlement agreement and the adoption of Administration Commission Rule 28-20, Florida Administrative Code. The rule contained a Work Program which, when complete, would improve water quality and better protect habitat for threatened and endangered species, resolve challenges that were raised by the various parties, and ultimately, lead to repeal of the designation. These administrative proceedings highlighted specific aspects of the Florida Keys ecosystem as having limited capacity to sustain additional impacts from development. Of

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<sup>1</sup> Section 380.05(2)(a), Florida Statutes

particular concern was the declining water quality of the near shore environment due to a lack of central sewer facilities, the loss of habitat for state and federally listed species, public safety in the event of hurricanes, and a deficit of affordable housing.



Brain Coral

Concerns about water quality resulted in legislative action which included requirements that by December 2015, all sewage disposal in the Florida Keys must be upgraded to meet advanced wastewater treatment standards that reduce the amount of nitrogen, phosphorus, biological oxygen demand and total suspended solids. As a result, when the construction of the central system is concluded, approximately 23,000 septic tanks and 2,800 cesspits will be eliminated with connections to central sewer. Another 249 small package plants will also connect to central sewer. The

bond financing in the Save Our Everglades Program, approved by the Florida Legislature in 2012, and the extension of the Monroe County Infrastructure Sales Tax will provide the foundation to complete central sewer by 2015.

Water quality and the economy are inextricably linked in the Florida Keys. Tourism is the chief economic engine in the Florida Keys with over \$1.2 billion dollars being spent annually by over 3.7 million visitors. Nestled in the turquoise-blue waters, among sensitive coral reefs and highly productive marine nurseries, the Keys are an international mecca for fishing and wildlife viewing. Recreational and commercial fishing are the next most important sectors of the local economy, annually contributing an estimated \$557 million. Hotel and motel properties alone constitute over \$1 billion in taxable property value and 90% of the top property tax payers are tourism-related businesses. In the Florida Keys, nearly half of all taxable sales are direct purchases by tourists.

Clean water in the Keys is essential to maintaining a strong tourism base. Maintenance of the Keys' natural resources is necessary for a sustainable economy which is dependent upon clean water and abundant natural resources. More than 35,000 jobs in the Keys are supported by ocean recreation and tourism accounting for 58% of the local economy. The cost of water quality improvements in the Keys are a small fraction of the long term asset value that the natural resources provide to the economy of the Florida Keys.



## Hurricane Evacuation

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The Florida Keys consist of a chain of islands that are connected by a narrow ribbon of U.S. Highway 1, stretching 112 miles and spanned by 19 miles of bridges. The highest point of elevation along these rocky islands is only 18 feet above sea level and there is no point that is more than four miles from the water. The Florida Keys are isolated from the rest of the state and receive electricity and potable water from Florida City, located on the Florida mainland. Although access to and from the Keys is primarily by U.S. Highway 1, some visitors arrive by cruise ship or at one of the two airports serving the Keys.

All local governments in the Florida Keys are united by the need to maintain a hurricane evacuation clearance time of 24 hours prior to the onset of hurricane-force winds as prescribed by their local as well as state laws. Evacuation of the Keys' population in advance of a hurricane strike is of paramount importance for public safety. No hurricane shelters are available in the Florida Keys for Category 3-5 hurricane storm events.

### Work Program Task

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**By July 1, 2012, the local governments of the Florida Keys shall enter into a memorandum of understanding with the state land planning agency, Division of Emergency Management, Marathon, Monroe, Key West, Key Colony Beach, the Village of Islamorada and Layton after a notice, public workshop and comment period of at least 30 days for interested parties. The memorandum of understanding shall stipulate, based on professionally acceptable data and analysis, the input variables and assumptions, including regional considerations, for utilizing the Florida Keys Hurricane Evacuation Model or other models acceptable to the agency to accurately depict evacuation clearance times for the population of the Florida Keys.**

In response to the Work Program directive adopted by the Administration Commission, a Hurricane Evacuation Clearance Time Work Group (Work Group) was appointed by the Department of Economic Opportunity. The Work Group included an elected representative from each of the six local governments and a cross section of the population including the tourism industries, chambers of commerce, and community organizations as well as representatives from state and federal agencies. Four workshops were conducted in various locations in the Florida Keys to consider hurricane model inputs, Census data, behavioral studies, hurricane forecasting, military evacuation procedures, traffic flow rates, private property rights, vacant platted lots, and other related research. Public testimony was received and considered. The model was updated with recent statistical information and numerous scenarios were modeled to estimate maximum build out capacity and to determine the remaining allocations that may occur and maintain the 24 hour hurricane evacuation goal. The Work Group recommended strategies for future mitigation, data needs, and the addressed the regional implications of hurricane evacuation. Overall, this exercise resulted in a Memorandum of Understanding which included the agreed upon assumptions and variables to be used for hurricane evacuation modeling exercises.



Since 1992, all local governments within the Florida Keys, with the exception of the City of Key Colony Beach, have limited residential growth through an annual cap on new residential development to ensure the ability of the population of the Florida Keys to safely evacuate. The Work Group made recommendations regarding future building permit allocations for each local government. Marathon, Islamorada, and Monroe County have building permit allocations established by Administration Commission rule and within their adopted comprehensive plans. Layton and Key West have allocations adopted within their adopted comprehensive plans. Key Colony Beach has no allocation established within its adopted plan or within an Administration Commission rule. The Department will work with Key Colony Beach over the next year to develop a comprehensive plan amendment to establish an annual building allocation to alleviate the need for the Administration Commission to undertake rulemaking that is contemplated in the adopted Work Plans for Monroe County, Islamorada, and Marathon.



**Flooding - Hurricane Wilma**

Computer modeling is used to estimate the maximum number of vehicles and people that can be evacuated within the established 24 hour clearance time criteria. The Department utilized the Transportation Interface for Modeling Evacuations (TIME) Model, a state-of-the-art transportation evacuation model developed for the Florida Division of Emergency Management for statewide application. The TIME Model was updated with 2010 U.S. Census and the 2006-2010 American Community Survey information for the number and occupancy rates of dwelling units by type (site-built

and mobile home) and their associated characteristics such as number of people and vehicles per household. Tourist unit data was provided by the Florida Department of Business and Professional Regulation. Tourist unit occupancy rates were collected from Smith Travel Research in coordination with the Monroe County Tourism Development Council. Human behavioral assumptions were provided from studies conducted for the Statewide Regional Evacuation Study Program for the South Florida Region. Roadway characteristics, including roadway capacity and flow rates were provided by the Florida Department of Transportation. Updates to the TIME Model were peer reviewed and approved by the South Florida Regional Planning Council for accuracy of methodology and application.

## Evacuation Modeling Assumptions and Variables

The Memorandum of Understanding included the following assumptions:

1. **Tourist Units:** There are 13,665 tourist units with approximately 11,287 units occupied (during July) with 100 percent participation for a Category 5 hurricane event. July is the highest month of hotel occupancy. The average car usage is 1.10 vehicles per tourist unit.
2. **Mobile Home Units:** There are 8,134 mobile home units with approximately 4,576 occupied units with 100 percent participation for a Category 5 hurricane storm event.
3. **Site-Built Units:** There are 44,630 site-built units with approximately 28,053 occupied units.
4. **Participation Rate:** 90% for a Category 5 hurricane storm event for site-built units. Section 163.3177(8)(a)1, F.S., requires that a proposed comprehensive plan amendment shall be found in compliance with the state coastal high-hazard area provisions if the adopted level of service for out-of-county hurricane evacuation is maintained for a Category 5 hurricane storm event as measured on the Saffir-Simpson scale.
5. **Response Curve:** 12 hours.
6. **Number of Vehicles Unit type:** The number of vehicles owned by unit type (i.e. mobile home, site-built) was taken from 2006-2010 American Communities Survey.
7. **Vehicle Usage:** The percent of vehicles owned that will be used during an evacuation is based upon the 2010 Statewide Regional Evacuation Study Program, South Florida Region: Monroe County Planning Assumptions, Volume 1-11, Appendix IIIC.
8. **Vehicle Usage by the Special Populations:** 2,338 vehicles will be evacuated during Phase 1 by Naval Air Station-Key West as confirmed by NAS Key West. The number of vehicles from the Florida Keys Community College is based upon the assumption that each of the 100 dorm beds will contribute one evacuating vehicle per bed.
9. **Evacuation Stream:** The evacuating traffic from Monroe County is the only traffic demand modeled (Section 163.3178(9), F.S.).
10. **Roadway Capacity:** Traffic Flow Rates for Emergency Evacuation in the Florida Keys, dated June 18, 2010, submitted by the Florida Department of Transportation.

Over 100 hurricane evacuation modeling scenarios were completed based on these input variables and assumptions. These scenarios employed these base assumptions and variables along with additional adjustments to analyze the amount and distribution of additional development in the Florida Keys. Specific scenarios which provided significant evacuation clearance time information were validated by staff from the South Florida Regional Planning Council to ensure there were no errors regarding assumptions, inputs and reported clearance times.

## Work Program Task

**By July 1, 2012, the state land planning agency (agency) shall apply the derived clearance time to assess and determine the remaining allocations for the Florida Keys Areas of Critical State Concern. The agency will recommend appropriate revisions to the Administration Commission regarding the allocation rates and distribution of allocations to Monroe County, Marathon, Islamorada, Key West, Layton and Key Colony Beach or identify alternative evacuation strategies that support the 24-hour evacuation clearance time. If necessary, state land planning agency shall work with each local government to amend the Comprehensive Plans to reflect revised allocation rates and distributions or propose rule making to the Administration Commission.**

As a result of the scenario analysis, the Department recommends that a maximum of 3,550 additional allocations could be distributed over the next ten years beginning in July 2013 among the Florida Keys' jurisdictions while maintaining the evacuation clearance time of 24 hours. Development that will occur between the years 2010-2013 will account for an additional 883 units. Below describes in detail the hurricane evacuation clearance time results from those scenarios used to identify the building permit allocations.

### **Evacuation Clearance Time Results**

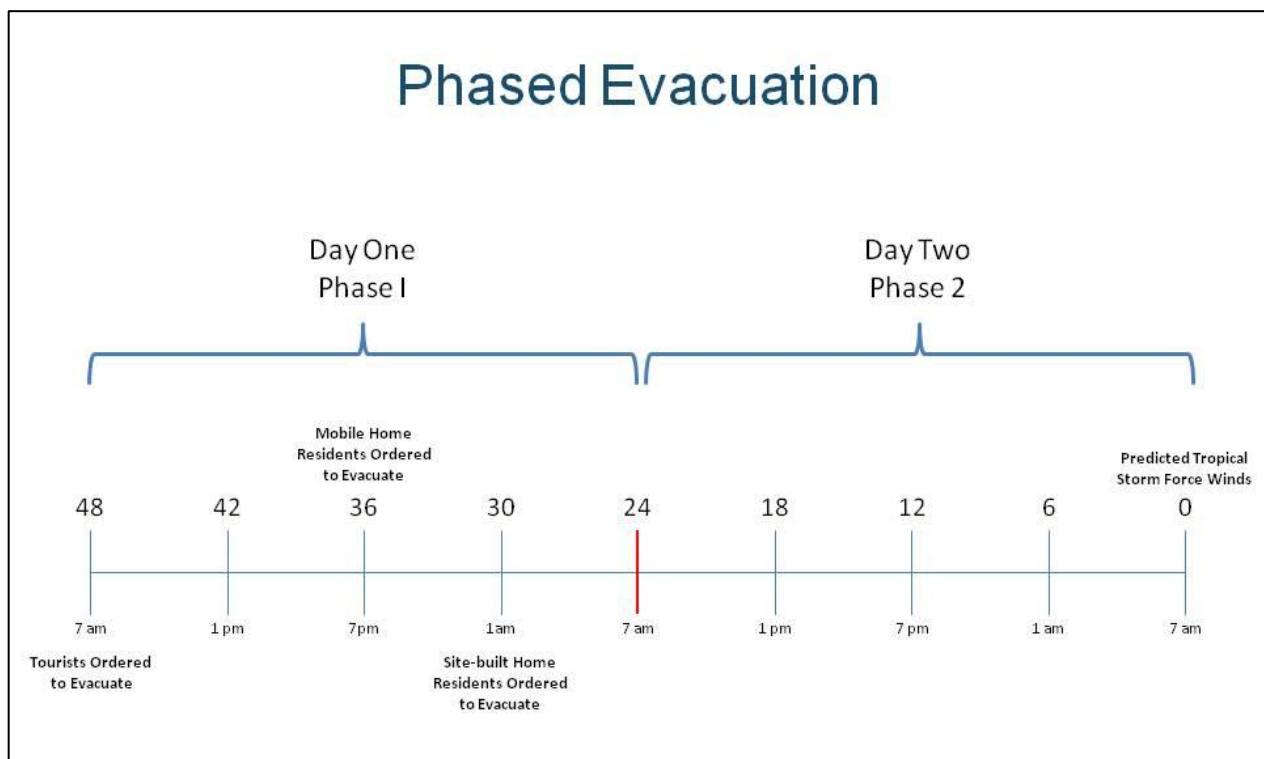
The phased evacuation approach is a form of mitigation, by initiating an earlier evacuation notice for the transient population, the military personnel, and those located in more vulnerable structures (mobile home residents). The Florida Keys' approach to hurricane evacuation consists of a phased, two day (48-hour) evacuation sequence. This approach to evacuation is modeled by breaking evacuation modeling into two parts, Phase I and Phase II. During the first day (Phase I), and 48 hours prior to anticipated landfall of hurricane force winds, tourists, mobile home residents and military personnel not needed for emergency operations evacuate while those residents who live in site-built homes leave during the second day (Phase II). The adopted 24-hour limit on the evacuation of the permanent population refers to those residents who live in site-built homes which are analyzed under Phase II evacuation scenarios.



## Phase II Evacuation Scenarios

Of the hurricane evacuation scenarios presented on June 8, 2012, the Work Group recommended Scenario M5 which provides for the continuation of the existing annual building permit allocations that have been adopted by either rule and/or comprehensive plan amendment for all local governments with the exception of Key Colony Beach and Key West. Scenario M5 assumed that the military, mobile home residents and tourists will leave during Phase I and 15% of existing mobile homes would convert to site-built homes. Scenario M5 produced an evacuation clearance time of 24 hours with a future allocation of 3,550 new residential building permits.

Additional scenario runs were conducted to include building permit allocations that may have been awarded between the time of the 2010 Census and July 2013, the starting date of the new allocations, if approved by the Administration Commission. Scenario BA-3 takes the assumptions and variables of Scenario M5 and includes 3 additional years of allocations being awarded by Monroe County, the Village of Islamorada, and the Cities of Marathon, Layton and Key Colony Beach from between 2010 to 2013. Scenario BA-3 produced an evacuation clearance time of 24 hours.



Based on existing infrastructure and evacuation strategies, computer modeling indicates that the projected maximum build out for the Florida Keys is the development of an additional 3,550 vacant lots beginning July 2013 while maintaining the 24 hour evacuation clearance time as required by section 380.0552(9)(a)2., F.S. Unless infrastructure improvements are made, land acquisition is accelerated, or additional modifications are made to the evacuation clearance time

and strategies, there is the potential that approximately 7,000 vacant lots will not be able to secure residential building permits without exceeding the 24 hour evacuation criteria. Additional efforts must be made to accelerate land acquisition, develop additional mitigation strategies, or improve roadway infrastructure.

### Work Program Task

**By March 31, 2012, the Area of Critical State Concern staff shall amend the agendas for the Hurricane Evacuation Clearance Modeling Workshops to include the potential for future transient allocations and their impact on hurricane evacuation clearance times. (January 18, 2012 Administration Commission Action)**

#### Phase I Evacuation Scenarios

During the last annual reporting period, the Administration Commission directed staff to analyze the impacts of new tourist unit development in the Florida Keys since the Building Permit Allocation Systems used by Monroe County, Islamorada and Marathon have not assigned any allocations for the development of transient units for the last 10 years. The prohibition on transient unit allocations was developed in recognition of the more than 11,000 vacant platted lots that exist in the Keys. Transient units typically are awarded as multiple units on one parcel. Since evacuation of the Keys is limited by the existing infrastructure with no substantive plans in place to augment the transportation system, the allocation of the units to vacant residential lots has been a priority in order to limit potential takings cases.



In response to a request for economic development assistance from the City of Marathon, the Administration Commission awarded the City 100 new tourist units with the potential for an additional 100 units to come from the Administrative Relief pool and/or the City's future building permit allocations. To analyze the potential impacts of additional tourist development, a series of Phase I scenarios were conducted. The assumptions for all Phase I evacuation scenarios were consistent with the evacuation stream containing all of the tourists, mobile home residents and military evacuating.



The month of July had the highest occupancy rate in the Keys when compared month by month. Using July tourist occupancy rates provided an evacuation clearance time of 16 hours and 30 minutes (Scenario T1). Members of the public urged the use of a scenario using the highest weekend occupancy rate which was Labor Day Weekend, (Saturday, September 3, 2011). This scenario provided an evacuation clearance time of 17 hours and 30 minutes. An additional scenario was conducted by increasing tourist units by an additional 215 units in Key West while using the July occupancy rates which provided an evacuation clearance time of 16 hours and 30 minutes (Scenario T5).

An additional concern expressed by the Work Group is the high vacancy rate of existing site-built units. A Phase 1 scenario was developed that added approximately 16,577 site-built units considered vacant by the 2010 U.S. Census as tourist units (Scenario VSBT) and this provided an evacuation clearance time of 23 hours and 30 minutes. However, it must be understood that the use of the additional vacant units in this scenario was generalized. There is the potential of an unknown number of units being double counted as the assumption of using all site-built units considered vacant which could include those units already identified as tourist units. Additional evaluations would be needed to understand this situation in the future.



## Building Permit Allocation Recommendation

The Work Group recommended the continuation of adopted allocations for each local government with 6 units per year allocated to Key Colony Beach and 91 to the City of Key West, including a provision that the City of Key West would transfer annually (by July 15<sup>th</sup>), any remaining allocations for the year to the other local governments. The unused allocations would be distributed to the other local governments based upon the local governments' ratio of vacant platted land. The vacant land analysis is the comparison of each local government's vacant land percentage to the whole of all the vacant lands in the Florida Keys. If, for example Key West had 51 units remaining, the table below illustrates how redistribution would be carried out.

### Redistribution of 51 Annually unused Key West Units

Local Government Allocation		Vacant Parcels	% of Total Vacant Parcels	% of Surplus Key West Allocations
Islamorada	28	1,109	9.86%	5.03
Key Colony Beach	6	92	0.82%	0.42
Layton	3	13	0.12%	0.06
Marathon	30	1,281	11.38%	5.81
Monroe County	197	8,758	77.83%	39.69
<b>Total <sup>2</sup></b>		<b>11,253</b>	<b>100.00%</b>	<b>51.00</b>

The typical planning time frame for local governments to award their allocations is ten years. Local governments can, if they wish, expand their allocation planning horizon past ten years. The hurricane evacuation scenario modeling was based on ten years of growth since the U.S. Census only comes out every ten years. The Department will continue to monitor the rate of growth in the Florida Keys and will run additional hurricane evacuation scenario exercises as circumstances change. The allocation issue will need to be reevaluated after 2020 when the next U.S. Census is completed and published.

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<sup>2</sup> See Technical Appendix for full listing of Vacant Land Analysis

## APPENDIX A

### 2012 Hurricane Evacuation Work Group Report

The Working Group made the following recommendations regarding the hurricane modeling assumptions and variables of the MOU:

1. **Tourist Units:** There are 13,665 tourist units with 11,287 units occupied (during July) with 100 percent participation for a Category 5 hurricane event. July is the highest month of hotel occupancy. The average car usage is 1.1 cars per unit.
2. **Mobile Home Units:** There are 8,134 mobile home units with 4,576 occupied units with 100 percent participation for a Category 5 hurricane event.
3. **Site-Built Units:** There are 43,718 site-built units with 27,320 occupied, with 90 percent participation for a Category 5 hurricane event.
4. **Response Curve:** 12 hours.
5. **Vehicle Usage by type of Unit:** The number of vehicles owned was taken from 2006-2010 American Communities Survey data
6. **The percent of vehicles** owned that will be evacuated is based upon the 2010 Statewide Monroe County Planning Assumptions, Volume 1-11, Appendix IIIC.
7. **Vehicle Usage by the Special Population:** 2,338 vehicles will be evacuated during Phase 1 by the Naval Air Station-Key West (electronic message to DEO from NAS Key West on July 7, 2012). The number of vehicles from the Florida Keys Community College is based upon the assumption that each of the 100 dorm beds will contribute one evacuating vehicle per bed.
8. **Evacuation Stream.** The evacuating traffic from Monroe County is the only traffic demand modeled (Section 163.3178(9), F.S.)
9. **The Roadway Capacity,** dated June 18, 2010, established by the Florida Department of Transportation.

Monroe County made the following recommendations regarding future allocations and mitigation options:

1. Local governments could consider Statutory, Rule and Comprehensive Plan revisions to amend the clearance time thresholds to reflect any improvements in forecasting.
2. Local governments could consider changing the rates and/or distribution of allocations to allow additional time to address vacant parcels as well as redistribute the potential, new vehicles participating in future evacuation events (reduce evacuating traffic).
3. Local governments could consider road improvements to address roadway capacity. It was noted that these projects are long term, costly, controversial and may conflict with community character.
4. Local governments should consider adopting policies to create and allow alternative uses of vacant properties, particularly along US1. Local governments can consider re-designating parcels to provide alternatives to residential development.

5. Local governments should adopt new funding mechanisms for land acquisition and management to accelerate the extinguishment of development rights and reduce evacuating traffic.
6. Local governments should adopt new incentives to facilitate development that donates land in order to extinguish development rights and reduce evacuating traffic.
7. Local governments should consider adopting policies to allow the transfer of development rights across jurisdictional boundary lines to redistribute existing density and reduce exposure to property rights takings cases.
8. Local governments could consider the construction of shelters outside of coastal high hazard areas in Monroe County funded by impact fees to improve public safety and reduce the number of evacuating vehicles. Note, this concept is not supported by the Florida Division of Emergency Management and only 3% of the population uses shelters.
9. Local governments could consider petitioning the federal government to designate all eligible vacant lots within the Keys as Coastal Barrier Resource Units (CBRS) to limit the developable areas that can receive federal funds or subsidies, such as flood insurance.

The Work Group made the following recommendations regarding future allocations:

The Work Group recommended scenario M5, from the scenarios presented on June 8, 2012, which includes the continuation of full allocations for each local government, with a provision that the City of Key West would transfer annually (by July 15th), any remaining allocations for the year to the other local governments. The unused allocations would be distributed to the other local governments based upon the local governments' ratio of vacant platted land. The vacant land analysis is the comparison of each local government's vacant land percentage to the whole of all the vacant lands in the Florida Keys.

If, for example Key West had 51 units remaining, the table below illustrates how to redistribution would be carried out. Key Colony Beach and Layton have less than 1 percent of the vacant land and would receive fractional allocations. Fractional units (to two decimal places) can be accumulated. However, only whole allocations can be awarded for the purposes of permit issuance.

<b>Vacant Land Analysis Table</b>	<b>Vacant Parcels</b>	<b>% of Total Vacant Parcels</b>	<b>% of Surplus Key West Allocations</b>
Islamorada	1,109	9.86%	5.03
Key Colony Beach	92	0.82%	0.42
Layton	13	0.12%	0.06
Marathon	1,281	11.38%	5.81
Unincorporated Monroe County	8758	77.83%	39.69
<b>Total</b>	<b>11,253</b>	<b>100.00%</b>	<b>51.00</b>

## Concerns expressed by the Majority of the Work Group

1. **Timing of mobile home evacuation:** There is little information available regarding the precise time when a mobile home occupant will evacuate. Some members believe that mobile home occupants will not evacuate during Phase 1 and should be modeled as Phase 2. No evidence exists to indicate that mobile home occupants do or do not leave during Phase 1 of the phased evacuation.

**Note:** DEO recommended that educational workshops be conducted with the mobile home parks to provide education and to improve evacuation support services for individuals with pets and those lacking transportation to facilitate evacuation from mobile homes that are vulnerable to flooding, high winds and do not meet the current wind load standards under the Florida Building Code. The County Emergency Operations Director orders residents in vulnerable dwelling units to evacuate prior to the mandatory order for site built units.

2. **Human Behavioral Surveys** conducted by Dr. Baker for the DEM Statewide Regional Hurricane Evacuation Study indicates that 88 percent of mobile home occupants would evacuate for a Category 5 evacuation. The surveys included 400 telephone surveys conducted in Monroe County with 44 responses from mobile home occupants. These numbers were aggregated with Miami-Dade and Broward mobile home surveys for a total of 1600 surveys. While statistically sound, the small response from mobile home occupants in the Florida Keys was a concern to the Work Group since the adopted comprehensive plan policies and the Hurricane Evacuation model assume that the mobile home occupants evacuate on Phase 1 of the evacuation. Monroe County recommended that additional surveys of mobile home occupants be conducted.

**Note:** Several evacuation scenarios include 15% or 1,248 mobile home units modeled as evacuating with the site built units during Phase 2 and produced a 24 hour evacuation clearance time.

3. **Mobile home occupancy rate:** Some members questioned the validity of the occupancy rates reported by the U.S. Census and American Community Survey which indicates that out of 8,134 mobile homes, there are only 4,576 occupied units.

**Note:** This is the most recent, best available and relevant data.



## Public Comments and responses

- Some citizens took the position that because the phased evacuation covers 48 hours, there is a clearance time of 48 hours, not 24 hours.

**Note:** The early evacuation of tourists and mobile home occupants is mitigation to maintain the 24 hour evacuation clearance time. The policy has been adopted for more than five years and the hurricane evacuation modeling software was developed in response to the adopted policy. To modify the policy requires a comprehensive plan amendment for five of the six local governments. Key West adopted the phased evacuation policy by City Resolution. The adopted policies must be consistent with each other since the evacuation of the Florida Keys involves all of the local governments.

- Reduce units to the extent possible using vacant land analysis, until road improvements are made or develop additional means for evacuation.
- Petition for a toll on US1 and use funds for land acquisition to extinguish development rights.
- If future studies are proposed, the studies should first be submitted to Florida Division of Emergency Management for methodology approval.
- Tourist occupancy: Citizens recommended using the occupancy rate for the month of September and provided data showing that around 46% of hurricanes had occurred in September. The highest average hotel occupancy rate for the year occurs during July (Key West 90.5%, Lower Keys-75.9%, Marathon and Key Colony Beach 79%, Islamorada/Layton 67.5%, Key Largo 77.8%). The September average occupancy rate is lower than July's average occupancy rate. The citizens recommended using the Labor Day week-end occupancy rate which is 97% for Key West and 93% for the balance of the Keys for the Saturday during Labor Day weekend.

**Note:** DEO staff conducted a scenario using the highest occupied week end of the year which is Labor Day week end (97% and 93%) and the resulting evacuating time for Phase 1 was 17.5 hours.

- Some members expressed concern that mobile home occupants are permanent residents and should be counted evacuating with the Phase 2 site-built units.

**Note:** The adopted policies notify mobile home occupants to evacuate at 36 hours. The balance of the permanent residents live in permanent site built structures. Mobile homes are more vulnerable and mobile home occupants are asked to leave earlier as a safety precaution. Several evacuation scenarios include 15% or 1,248 mobile home units modeled as evacuating with the site built units during Phase 2 and produced a 24 hour evacuation clearance time.

- The currently adopted 48-hour phased evacuation policy is not reasonable due to the nature of hurricane storm events and tourists may not be able to evacuate before mobile and site-built units evacuate.

**Note:** The application of the worst case scenario would result in a building moratorium. Current hurricane forecasting and the media provide significant advance notice of approaching weather conditions.

- The Hurricane Evacuation Model accounts for 38% of the existing site built units because the Census data reports the balance of the site built units as vacant, therefore, providing evacuation clearance time results that are lower because of the applied occupancy and participation rates. The model should assume that some percentage of the vacant homes reported by the census and American Communities Surveys are being occupied by seasonal occupants.  
**Note:** Insufficient data exists to provide an accounting for how many seasonal units may be rented without authorization or registration with the Department of Business and Professional Regulation and/or the local governments that issue vacation rental licenses. Insufficient data exists to determine the number of units that may be occupied by a friend or relative, but have been classified as “vacant” in the hurricane evacuation model.
- Comments received from the public indicated there could be unlawful downstairs enclosures that are being reported by FEMA officials that may not have been counted by the US Census or included in the hurricane evacuation model’s evacuation stream.  
**Note:** FEMA and the County are compiling the number. The County has implemented a program for home inspection when flood insurance policies must be renewed and when property sales occur and is taking enforcement action as needed.
- Comments received from the public recommended that the model use assumptions that account for a fast intensification of a hurricane where a phased evacuation is not possible and tourists and permanent residents evacuate simultaneously. Under this scenario, no additional new development could occur.  
**Note:** With current technology, citizens are aware of potential storm threats several days in advance. Weather forecasting to predict where a hurricane will strike has improved and forecasters are able to predict as far out as 36 hours. The ability to project the precise intensity of the hurricane strike continues to be a challenge.
- Mr. James Franklin, with the National Hurricane Center, reported that the National Hurricane Center has improved in its ability to project where a hurricane will make landfall from 24 hours to 36 hours; however, rapid intensification of a hurricane system is still a major issue with forecasting. He indicated that the Weather Forecasting Services routinely misses intensity by 1 category and the hurricane track error increases by 45 miles/day. Track errors include: speed (timing) and location. He gave the following example: 48 hours in advance of storm (center of storm): Intensity is off by 15 knots and the track is off by 90 miles. 24 hours in advance of storm (center of storm): Intensity off by 11 knots and track is off by 51 miles.
- The occupancy rate for the existing site-built units could increase resulting in a longer evacuation time.  
**Note:** Occupancy has declined over a 20 year period.
- Change rate and distribution of allocations based on vacant land analysis Keys wide.
- Decrease annual allocation rate to provide more time for acquisition of land and reduce evacuation stream
- Increase road capacity to facilitate evacuation.
- Re-designate vacant platted lots close to US1 for commercial/office uses to reduce residential evacuation.
- Revise evacuation clearance time in status and plans based on improved capacity.
- Consider referendum to create dependent taxing authority for land acquisition to reduce future evacuation stream.

11. By July 1, 2012, Monroe County shall enter into a memorandum of understanding with the Department of Community Affairs, Division of Emergency Management, Marathon, Islamorada, Key West, Key Colony Beach, and Layton after a notice and comment period of at least 30 days for interested parties. The memorandum of understanding shall stipulate, based on professionally acceptable data and analysis, the input variables and assumptions, including regional considerations, for utilizing the Florida Keys Hurricane Evacuation Model or other models acceptable to the Department to accurately depict evacuation clearance times for the population of the Florida Keys.
12. By July 1, 2012, the Florida Keys Hurricane Evacuation Model shall be run with the agreed upon variables from the memorandum of understanding to complete an analysis of maximum build-out capacity for the Florida Keys Area of Critical State Concern, consistent with the requirement to maintain a 24-hour evacuation clearance time and the Florida Keys Carrying Capacity Study constraints. This analysis shall be prepared in coordination with the Department of Community Affairs and each municipality in the Keys.
13. By July 1, 2012, the County and the Department of Community Affairs shall update the data for the Florida Keys Hurricane Evacuation Model as professionally acceptable sources of information are released (such as the Census, American Communities Survey, Bureau of Economic and Business Research, and other studies). The County shall also evaluate and address appropriate adjustments to the hurricane evacuation model within each Evaluation and Appraisal Report.
14. By July 1, 2012, the Department of Community Affairs shall apply the derived clearance time to assess and determine the remaining allocations for the Florida Keys Areas of Critical State Concern. The Department will recommend appropriate revisions to the Administration Commission regarding the allocation rates and distribution of allocations to Monroe County, Marathon, Islamorada, Key West, Layton and Key Colony Beach or identify alternative evacuation strategies that support the 24 hour evacuation clearance time. If necessary, the Department of Community Affairs shall work with each local government to amend the Comprehensive Plans to reflect revised allocation rates and distributions or propose rule making to the Administration Commission.
15. By July 1, 2013, if necessary, the Department of Community Affairs shall work with each local government to amend the Comprehensive Plan to reflect revised allocation rates and distribution or propose rule making to the Administration Commission.

**Section 163.3178 (8)(a), Florida Statutes**

A proposed comprehensive plan amendment shall be found in compliance with state coastal high-hazard provisions if:

1. The adopted level of service for out-of-county hurricane evacuation is maintained for a Category 5 storm event as measured on the Saffir-Simpson scale; or
  2. A 12-hour evacuation time to shelter is maintained for a Category 5 storm event as measured on the Saffir-Simpson scale and shelter space reasonably expected to accommodate the residents of the development contemplated by a proposed comprehensive plan amendment is available; or
  3. Appropriate mitigation is provided that will satisfy subparagraph 1. or subparagraph 2. Appropriate mitigation shall include, without limitation, payment of money, contribution of land, and construction of hurricane shelters and transportation facilities. Required mitigation may not exceed the amount required for a developer to accommodate impacts reasonably attributable to development. A local government and a developer shall enter into a binding agreement to memorialize the mitigation plan.
- (b) For those local governments that have not established a level of service for out-of-county hurricane evacuation by July 1, 2008, by following the process in paragraph (a), the level of service shall be no greater than 16 hours for a Category 5 storm event as measured on the Saffir-Simpson scale.
- (c) This subsection shall become effective immediately and shall apply to all local governments. No later than July 1, 2008, local governments shall amend their future land use map and coastal management element to include the new definition of coastal high-hazard area and to depict the coastal high-hazard area on the future land use map.

**Note:** This statute provides the basis for utilizing the category 5 storm event. All local governments in the Florida Keys, with the exception of Key West, had already adopted a 24 hour evacuation time prior to the enactment of this legislation. Key West had adopted a 30 hour evacuation time but will be submitting a plan amendment to require a 24 hour evacuation time in order to be consistent with the other local governments.

## **Hurricane Evacuation Procedure for all Florida Keys Local governments**

*In the event of a **pending major hurricane (Category 3-5)** Monroe County shall implement the following staged/phased evacuation procedures to achieve and maintain an overall 24-hour hurricane evacuation clearance time for the resident population.*

1. Approximately 48 hours in advance of tropical storm winds, a mandatory evacuation of non-residents, visitors, recreational vehicles (RV's), travel trailers, live-aboards (transient and non-transient), and military personnel from the Keys shall be initiated. State parks and campgrounds should be closed at this time or sooner and entry into the Florida Keys by non-residents should be strictly limited.
2. Approximately 36 hours in advance of tropical storm winds, a mandatory evacuation of mobile home residents, special needs residents, and hospital and nursing home patients from the Keys shall be initiated.
3. Approximately 30 hours in advance of tropical storm winds, a mandatory phased evacuation of permanent residents by evacuation zone (described below) shall be initiated. Existing evacuation zones are as follows...

## Work Group Participant List

- I. Hurricane Evacuation Clearance Time Work Group**
  - a. Commissioner Sylvia Murphy (Monroe County)
  - b. Mayor Pete Worthington (City of Marathon)
  - c. Mayor Ron Sutton (City of Key Colony Beach)
  - d. Councilman Don Achenberg (Islamorada, Village of Islands)
  - e. Councilman Clark Snow (City of Layton)
  - f. Commissioner Teri Johnston (City of Key West)
  - g. Rebecca Jetton (Department of Economic Opportunity)
  - h. David Halstead (Florida Division of Emergency Management)
- II. Special Interest Group Representatives**
  - a. William Knetge (NAS Key West)
  - b. Daniel Samess (Florida Keys Federation of Chambers of Commerce)
  - c. Sheldon Suga (Florida Restaurant and Lodging Association)
  - d. Jodi Weinhofer (Lodging Association of the Florida Keys and Key West)
  - e. John Hammerstrom (Environmental Group Representative)
  - f. Annalise Mannix (Citizen Advocacy)
- III. Technical Advisory Contributors**
  - a. Jeff Alexander (Northeast Florida Regional Planning Council)
  - b. Richard Ogburn (South Florida Regional Planning Council)
  - c. Irene Toner (Monroe County Emergency Management)
  - d. Lou Caputo (Monroe County Sheriff's Office)
  - e. John Rizzo and Andrew Devanas (alternate) (National Weather Service)
  - f. Aileen Boucle (Florida Department of Transportation)
  - g. Jeannine Kelsick (Areas of Critical State Concern Program)
  - h. Barbara Powell (Areas of Critical State Concern Program)
  - i. Christine Hurley (Monroe County)
  - j. Mayte Santamaria (Monroe County)
  - k. George Garrett (City of Marathon)
  - l. Don Craig (City of Key West)
  - m. Edward Koconis (Village of Islamorada)
  - n. Vickie Bollinger (City of Key Colony Beach)
  - o. Philip "Skip" Haring (City of Layton)
  - p. James Franklin (National Hurricane Center)
  - q. Bryan Davisson (Monroe County)
  - r. Bob Shillinger (Monroe County)
  - s. Richard Shine (Department of Economic Opportunity)
  - t. Andrew Sussman (Florida Division of Emergency Management)
  - u. Jim Callahan (Monroe County)
  - v. Gary Boswell (Monroe County)



## APPENDIX B

### Hurricane Modeling Fact sheet

- 1) Florida Keys
  - a) Since 1992, building constraints were established by Monroe County (ROGO), based on hurricane evacuation results from Post, Buckley, Schuh and Jernigan (PBS&J)
    - i) Adopted building allocations for local governments of the Florida Keys come later
  - b) Long History of Modeling Assumptions
    - i) For example, less than 100% Participation Rate has been historically used for modeling purposes for the County
  - c) One way out – US 1 Highway
    - i) Bottleneck areas like Snake Creek Bridge
    - ii) Less lanes in Lower Keys than Upper Keys
  - d) At least a 1/3<sup>rd</sup> of the population lives in Key West alone
  - e) 48-hour Phased Evacuation
    - i) At hour 48, order tourists and special populations (i.e. Navy, etc) to leave
    - ii) At hour 36, order Mobile homes, RV Parks, etc to leave
    - iii) At hour 30, order permanent population to leave
  - f) Build-out Capacity and Building Allocations based on the ability to evacuate the population in a Category 3 storm and above.
    - i) 2005/2006 – Adopted Level of Service (LOS) for 48-hour phased evacuation by local governments in the Florida Keys for a Category 3 hurricane storm event
      - (1) City of Key West
      - ii) Florida Laws (Sections 380.0552(4) and (9)(a), and 163.3178(9)(a), Florida Statutes)
        - (1) 16 hours – For local governments in Florida, if no LOS is adopted for hurricane evacuation by July 1, 2008, then the LOS to be adopted by local governments is 16 hours out-of-county for Category 5 hurricane storm event
    - g) Only place in Florida in which hurricane evacuation has to be done in this manner
      - i) Terminus for evacuation is at the beginning of the Florida Turnpike in Florida City, Miami-Dade County
      - ii) Final Order for DOAH Case No. 04-002756RP
      - iii) Memorandum of Understanding tasks for Hurricane Evacuation modeling in Rules 28-18.400, 28-19.310, and 28-20.140, Florida Administrative Code
  - h) Mitigation Option issues – 2001 Miller Study Recommendations (Table 18)
    - i) Construction of additional lanes in various locations along US 1 including from Mile Marker (MM) 85.6 to 106.3, MM 74.0 to 80.0 and MM 47.0 to 48.0.
    - ii) Improvement of the intersection of CR 905 / CR 905A
    - iii) Refer to Table 18 located underneath Tab 1 of the notebook for more detailed information
  - i) Please note, there are no Reverse Traffic Plans for the Keys

## 2) TIME Model

- a) Originally using the PBS&J and Miller Models, which were Static Traffic Assignment based models that were created for the Florida Keys because of the unique issues surrounding the area
- b) Using the Transportation Interface for Modeling Evacuations (TIME) model as developed from the Statewide Regional Evacuation Study Program (SRESP), which is the new statewide evacuation model released in 2010
  - i) Dynamic Traffic Assignment model
  - ii) Most transportation planning utilize Dynamic Traffic Assignment today
- c) Model allows the user to change participation rates, response curves, storm levels and other factors
  - i) TIME also allows the user to manipulate the unit (site-built, mobile home, and transient), occupancy rate, person to unit and vehicle to unit assumptions within the model
  - ii) Significant modification requires knowledge of ESRI ArcGIS, Microsoft Access and Cube Voyager through scenario specific geodatabases
- d) TIME model contains three model analysis year periods: 2006, 2010, and 2015
  - i) 2010 and 2015 are projections of units
- e) TIME Model uses data and characteristics the U.S. Census block group level which is organized into approximately Traffic Evacuation Zones (TEZs)
  - i) Under the U.S. Census, the block group is a geographical unit which contains a certain amount of census blocks. The size of the block group varies. The block group is the smallest unit of measurement in which the U.S. Census publishes sample data for housing characteristics, etc.
  - ii) However, between the 2000 U.S. Census and 2010 U.S. Census, the boundaries of the Census block groups has changed in some areas, which will cause more work to be done to update the model consistently
  - iii) For the Keys, an experimental update was done for the 2010 US Census
- f) In the TIME Model, all of areas in Monroe County are considered to be in one evacuation zone (Zone A). That means, as long as an evacuation scenario is modeled for a Category 2 hurricane storm event or above, no matter participation rate is used, all residents in the Keys will evacuate out-of-county and are not allowed to seek shelter within the County under the model parameters.
- g) For modeling purposes, the Florida Keys is broken down into smaller “County” designations: Key West, Lower Keys, Middle Keys, Upper Keys, and Mainland Monroe
  - i) Mainland Monroe is in the model, though not included for these evacuation purposes
- h) The data for the model was gathered from DEM, FDOT, South Florida RPC, DBPR, DOH, and Keys’ local governments, as well as federal sources (US Census, American Community Survey, etc.)
  - i) Occupancy rates for Site-Built and Mobile Home come from the 2000 U.S. Census
  - ii) Number of Site built/Dwelling Unit data comes from 2000 U.S. Census and 2006 American Community Survey (ACS), and adjusted using building permits and certificates of occupancy from Florida Keys’ local governments as of the end of 2009

and then was projected for years 2010 and 2015 using ROGO/BPAS adopted allocations. The ACS contains the specific housing characteristics used in the model.

iii) Number of Tourist Units are taken from the March 2010 Annual Report DBPR

iv) Tourist Occupancy Rates in the model use standard rates for hurricane modeling (approximately between 82-85%)

v) Number of Mobile Homes and RV Parks Units came from the Florida Department of Health, compared with 2000 U.S. Census and 2006 ACS.

vi) Vehicles per Household (Site-built), Mobile Home and Tourist Unit came from a comparison of 2000 U.S. Census and 2006 American Communities Survey. This ratio can be as low as .981 and as high as 2.22 depending on location/TEZ.

(1) Vehicle Usage rates per unit type are dependent on the storm level and unit type based on behavioral studies done for the SRESP. Only Tourist units have 100% Vehicle Usage rates in the model for all storm levels. Below are the tables showing how many vehicles are used in an overall evacuation.

<b>Table IIIC-3: Vehicle Use Rates for Residents Living in Site-Built Homes – Monroe County</b>					
<b>Site-Built Homes</b>	<b>Cat 1</b>	<b>Cat 2</b>	<b>Cat 3</b>	<b>Cat 4</b>	<b>Cat 5</b>
	85	85	85	85	85
Middle Keys	80	80	80	80	80
Lower Keys	75	75	75	75	75
Key West	90	90	90	90	90
<b>Table IIIC-10: Vehicle Use Rates for Residents Living in Mobile and Manufactured Homes – Monroe County</b>					
<b>Mobile and Manufactured Homes</b>	<b>Cat 1</b>	<b>Cat 2</b>	<b>Cat 3</b>	<b>Cat 4</b>	<b>Cat 5</b>
Upper Keys	85	85	85	85	85
Middle Keys	80	80	80	80	80
Lower Keys	75	75	75	75	75
Key West	90	90	90	90	90

The following table illustrates how the redistribution of the surplus allocations would be made based on the vacant land analysis. Key Colony Beach and Layton have less than 1 percent of the vacant land and would receive fractional allocations. Fractional units (to two decimal places) can be accumulated. However, only whole allocations can be awarded for the purposes of permit issuance.

	<b>Vacant Parcels</b>	<b>% of Total Vacant Parcels</b>
<b>Islamorada</b>	1,109	9.78%
<b>Key Colony Beach</b>	92	0.81%
<b>Key West</b>	84	0.74%
<b>Layton</b>	13	0.11%
<b>Marathon</b>	1,281	11.30%
<b>Unincorporated Monroe County</b>	8,758	77.25%
<b>Total Monroe County</b>	<b>11,337</b>	

<sup>1</sup> Labor Day Weekend was suggested by the public time since historically the most tropical storm events occurred near the Florida Keys. The tourist occupancy rate for Saturday, September 3, 2011 was the highest of the weekend when compared day by day and the weekend's average, of which all were at or below July's average.

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### **Adopted Hurricane Evacuation Procedure**

*Each local government In the event of a pending major hurricane (Category 3-5) the local governments of the Florida Keys have adopted the following policy to implement a/phased evacuation to achieve and maintain an overall 24-hour hurricane evacuation clearance time for the resident population.*

1. Approximately 48 hours in advance of tropical storm winds, a mandatory evacuation of non-residents, visitors, recreational vehicles (RV's), travel trailers, live-aboards (transient and non-transient), and military personnel from the Keys shall be initiated. State parks and campgrounds should be closed at this time or sooner and entry into the Florida Keys by non-residents should be strictly limited.
2. Approximately 36 hours in advance of tropical storm winds, a mandatory evacuation of mobile home residents, special needs residents, and hospital and nursing home patients from the Keys shall be initiated.
3. Approximately 30 hours in advance of tropical storm winds, a mandatory phased evacuation of permanent residents by evacuation zone (described below) shall be initiated. Existing evacuation zones are as follows...

**APPENDIX C**

*08-02-12*

**HURRICANE EVACUATION CLEARANCE TIME MEMORANDUM OF UNDERSTANDING**

**BY AND BETWEEN**

**THE FLORIDA DEPARTMENT OF ECONOMIC OPPORTUNITY AND THE COUNTY OF MONROE, CITY OF KEY WEST, ISLAMORADA, VILLAGE OF ISLANDS, CITY OF LAYTON, CITY OF KEY COLONY BEACH, CITY OF MARATHON, AND FLORIDA DIVISION OF EMERGENCY MANAGEMENT**

This Memorandum of Understanding (“MOU”) is entered into by and between the State of Florida’s Department of Economic Opportunity (the “DEO”), the Florida Division of Emergency Management (the “Division”), and Monroe County, the City of Key West, Islamorada, Village of Islands, the City of Layton, the City of Key Colony Beach, and the City of Marathon (the “Local Governments”) (all collectively known as the “Parties”) for the purpose of complying with Rules 28-18, 28-19, and 28-20, Florida Administrative Code.

**RECITALS:**

**WHEREAS**, the Local Governments of the Florida Keys are within two areas that the Florida Legislature and the Administration Commission have designated as Areas of Critical State Concern (the Florida Keys ACSC and the City of Key West ACSC), pursuant to Sections 380.05 and 380.0552, Florida Statutes, and Florida Administrative Code Chapter 28-36, hereinafter referred to as the “Keys ACSCs”; and

**WHEREAS**, the Local Governments have adopted state-mandated Comprehensive Plans and Land Development Regulations, which have been approved by the State, as required by law; and

**WHEREAS**, the State’s Legislative Intent in designating the Local Governments as Areas of Critical State Concern includes:

- (a) Establish a land use management system that protects the natural environment of the Florida Keys;
- (b) Establish a land use management system that conserves and promotes the community character of the Florida Keys;
- (c) Establish a land use management system that promotes orderly and balanced growth in accordance with the capacity of available and planned public facilities and services;
- (d) Provide affordable housing in close proximity to places of employment in the Florida Keys;
- (e) Establish a land use management system that promotes and supports a diverse and sound economic base;
- (f) Protect the constitutional rights of property owners to own, use, and dispose of their real property;

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(g) Promote coordination and efficiency among governmental agencies that have permitting jurisdiction over land use activities in the Florida Keys;

(h) Promote an appropriate land acquisition and protection strategy for environmentally sensitive lands within the Florida Keys;

(i) Protect and improve the nearshore water quality of the Florida Keys through the construction and operation of wastewater management facilities that meet the requirements of Sections 381.0065(4)(1) and 403.086(10), Florida Statutes, as applicable; and

(j) Ensure that the population of the Florida Keys can be safely evacuated (Section 380.0552(2) Florida Statutes); and

**WHEREAS**, the Florida Keys remain one of the most vulnerable areas in the United States to hurricanes; and

**WHEREAS**, the Florida Legislature and the Administration Commission have mandated that the Local Governments (except the City of Key West) include within the goals, objectives, and policies of their respective Comprehensive Plans measures to protect public safety and welfare in the event of a hurricane by maintaining an evacuation clearance time for permanent residents of no more than 24 hours (Section 380.0552(9)(a)2. Florida Statutes, Rule 28-18.400(5)(a)10., F.A.C., Rule 28-19.310(5)(a)5., F.A.C., and Rule 28-20.140(5)(a)14., F.A.C.); and

**WHEREAS**, Florida Administrative Code Rule 28-36.003(2)(a)7. requires that the City of Key West prepare and adopt an evacuation plan which is consistent with the regional and County plans; and

**WHEREAS**, the Florida Legislature further mandated that the hurricane evacuation clearance time for the Florida Keys ACSC shall be determined by a state-approved hurricane evacuation study, conducted in accordance with a professionally accepted methodology; and

**WHEREAS**, the Division of Emergency Management evacuation study, titled "Statewide Regional Evacuation Studies Program" dated November 2010, which includes Regional Behavioral Surveys Volumes 2-11, and was funded by the state Legislature and the Federal Emergency Management Agency ("FEMA"), provided the State's principal source of professionally acceptable data and analysis, augmented by other sources of data and analysis as referenced herein, for determining input variables and assumptions depicting evacuation clearance times for the population of the Florida Keys; and

**WHEREAS**, the Administration Commission has directed DEO, by July 1, 2012, to apply the derived clearance time to assess and determine the remaining allocations for the Florida Keys ACSC or identify alternative evacuation strategies that support the 24 hour evacuation clearance time; and

**WHEREAS**, the Administration Commission has directed DEO, the Division, and the Local Governments to enter into this MOU to stipulate to the input variables and assumptions, including regional considerations, for utilizing the Florida Keys Hurricane Evacuation Model or other models



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acceptable to DEO in order to accurately depict evacuation clearance times for the population of the Florida Keys ACSC; and

**WHEREAS**, DEO has determined that the Florida Division of Emergency Management's Transportation Interface for Modeling Evacuations ("TIME") Model is the model acceptable to DEO to accurately depict evacuation clearance times for the population of the Keys ACSCs; and

**WHEREAS**, the Local Governments of the Florida Keys, except the City of Key Colony Beach, have regulated the rate and distribution of growth by implementing permit allocation systems to address hurricane evacuation clearance times; and

**WHEREAS**, DEO and the Local Governments recognize that significant vacant lands remain in the Florida Keys: Monroe County with 8,758 vacant parcels (77% of total vacant lands), Marathon with 1,281 vacant parcels (11%), Islamorada with 1,109 vacant parcels (10%), Key Colony Beach with 92 vacant parcels (0.81%), Key West with 84 vacant parcels (0.74%), and Layton with 13 vacant parcels (0.11%); and

**WHEREAS**, DEO and the Local Governments recognize the need to balance limiting the maximum number of building permits for new construction of residential units to be issued annually in the Florida Keys with fairness and consideration of private property rights; and

**WHEREAS**, to address hurricane evacuation modeling for the Florida Keys ACSCs, DEO established a Hurricane Evacuation Clearance Time Work Group ("Work Group") consisting of elected officials from each Local Government and representatives from DEO and DEM; in addition DEO invited representatives of special interests in the Florida Keys to participate, including the Florida Keys Federation of Chambers of Commerce, the Florida Restaurant and Lodging Association, the Lodging Association of the Florida Keys and Key West, the Monroe County Sheriff's Office, Naval Air Station-Key West, the environmental community, and a citizen's advocacy group; and further DEO requested technical advisors from DEO, the Division, and the Local Governments as well as the Northeast Florida Regional Planning Council, the South Florida Regional Planning Council, Monroe County Emergency Management, the National Weather Service, the National Hurricane Center, and the Florida Department of Transportation to participate in meeting discussion; and

**WHEREAS**, four advertised public workshops were conducted in the Florida Keys where the Work Group reviewed studies and data from DEO and other agencies related to the occupancy, participation, human behavior, response curves, capacity of the evacuation route, and the number of automobiles that will likely be evacuated, and other factors; and

**WHEREAS**, the Work Group evaluated information, provided input, and ultimately recommended Scenario M5; and

**WHEREAS**, from among the scenarios provided by DEO at the June 8, 2012, Work Group meeting, Scenario M5 included the 2010 Census site-built units (43,760 units); the maximum number of residential building permits for new construction for all Local Governments per year for 10 years (annually, County 197, Marathon 30, Islamorada 28, Key West 90, Key Colony Beach 6 and Layton 3); 1,248 mobile home units projected to convert to site-built units; the exclusion of 870 dwelling units on

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the Naval Air Station; as well as two (2) functional evacuation lanes from MM 108-126. Further, the Work Group recommended Scenario M5 with the provision that the City of Key West would transfer annually (by July 13th) any remaining or unused (90 allocations) allocations to the other Local Governments based upon the Local Governments' ratio of vacant land; and

WHEREAS, following the June 8, 2012, Work Group meeting, technical corrections were made to the Census site built units revising that number to 43,718 and revising the Key West building permit allocation to 91, which corrections do not affect the hurricane evacuation clearance time for the population of the Florida Keys; and

WHEREAS, the Local Governments acknowledge that the safe and timely evacuation of the population of the Florida Keys in the event of a hurricane requires a consistent and cooperative approach and to that end, having participated as members of the Work Group, acknowledge that the input variables and assumptions identified in this MOU are those which DEO finds accurately depict evacuation clearance times for the population of the Florida Keys for a Category 3-5 hurricane event, as required by Administrative Rule; and

WHEREAS, Marathon, Key West, Layton, Monroe County, and Islamorada requested new participation rate studies be conducted, due principally to the low sample rates primarily for mobile homes relied upon by DEO; and,

WHEREAS, the Work Group accepted the participation rates recommended by DEO, including those for mobile homes, and DEO agreed to seek funding to provide education to mobile home occupants regarding the need to evacuate during Phase I due to the vulnerability of mobile homes; and

WHEREAS, the Local Governments recognize that the data, input variables, and assumptions DEO has incorporated into its hurricane evacuation model and this MOU are subject to change when the 2020 Census data becomes available.

NOW THEREFORE, the parties set forth the following understandings:

**PART ONE: RECITALS**

The above recitals are incorporated into this MOU and made a part hereof.

**PART TWO: DATA, INPUT VARIABLES AND ASSUMPTIONS**

The Human Behavioral Studies from the 2010 Statewide Regional Evacuation Study, the 2010 Census as supplemented by the 2006-2010 American Community Survey, Smith Travel Research, and data from the Department of Business and Professional Regulation, Division of Hotels and Restaurants, and Statewide Regional Evacuation Study Program for the South Florida Region are the best available and most relevant data and analysis. The following input variables and assumptions provide the basis, when used in the TIME model, to accurately calculate evacuation clearance times for the population of the Florida Keys, and DEO will recommend same to the Administration Commission to determine the remaining development allocations for the Florida Keys:

**A. Number and Occupancy of Units by type of Unit:**

1. **Tourist Units:** 13,665 tourist units with 11,287 occupied units for the month of July (the month with highest average number of permanent and seasonal residents and tourists). The data source for the number and type of units and vehicular use is the Statewide Regional Evacuation Study Program for the South Florida Region and the Department of Business and Professional Regulation, Division of Hotels and Restaurants, Licensee File Database, District 1 (March 29, 2010). The data source for occupancy of tourist units is the Smith Travel Research 2012: Historic Trend Report for 2011 for the month of July. A listing of the units is within the Statewide Regional Evacuation Study Table of Traffic Evacuation Zone Occupancy Data: Hotel, Motel and other Vacation Rental Units is attached and incorporated herein as **Exhibit 1**.
2. **Mobile Home Units:** 8,134 Mobile Home units with 4,576 occupied units. The data source for the number and type of units, the vehicular use and occupancy of the units is the 2010 Census supplemented by the 2006-2010 American Community Survey for Monroe County and the Statewide Regional Evacuation Study Program for the South Florida Region. A listing of the units is within the Statewide Regional Evacuation Study Table of Traffic Evacuation Zone Occupancy Data for Site-Built and Mobile Homes, is attached and incorporated herein as **Exhibit 2**.
3. **Site-Built Units:** 43,718 Site-built units with 27,320 occupied units. The data source for the number, type, occupancy, and vehicular use is the 2010 Census supplemented by the 2006-2010 American Community Survey and the Statewide Regional Evacuation Study Program for the South Florida Region. See **Exhibit 2**.

**B. Response Curve:** The assumed Response Curve for model runs is 12 hours for all unit types as utilized in the 2010 Statewide Regional Evacuation Study Program for the South Florida Region.

**C. Participation Rates:** The assumed Participation Rates are:

- |                       |                            |
|-----------------------|----------------------------|
| 1. Tourist units:     | 100%                       |
| 2. Mobile home units: | 100%                       |
| 3. Site-built units:  | 90% for a Category 5 event |

The participation rates are based upon the 2010 Statewide Regional Evacuation Study, Regional Behavioral Analysis Volumes 2-11, prepared for the South Florida Region, which DEO has determined reflect the best available data at this time.

**D. Vehicle Usage by Units by type of Unit:** A listing of the vehicle count and usage by Traffic Evacuation Zone quantifies the number of vehicles owned (**Exhibit 3**) and the percent of vehicles owned that will be evacuated (**Exhibit 4**). Exhibits 3 and 4 are based upon the 2010 Statewide Regional Evacuation Study and are attached and incorporated herein.

**E. Vehicle Usage by the Special Population:** **Exhibit 5** represents the number of vehicles that will be contributed by Naval Air Station – Key West and the Florida Keys Community College and is

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based upon correspondence from Naval Air Station – Key West and the assumption that each of the 100 dorm beds from the Florida Keys Community College will contribute one evacuating vehicle per bed.

**F. Evacuation Stream.** The evacuation stream from Monroe County is the only assumed traffic demand considered.

**G. Roadway Capacity.** The Roadway Capacity, dated July 18, 2010, established by the Florida Department of Transportation is attached and incorporated herein as **Exhibit 6**.

**H. Evacuation Procedures.** The following evacuation procedures have been adopted or substantially adopted by the Local Governments (except the City of Key West) into their comprehensive plans, and by the City of Key West in Resolution No. 06-244:

1. Approximately 48 hours in advance of tropical storm winds, a mandatory evacuation of non-residents, visitors, recreational vehicles (RV's), travel trailers, live-aboards (transient and non-transient), and military personnel from the Keys shall be initiated. State parks and campgrounds should be closed at this time or sooner and entry into the Florida Keys by non-residents should be strictly limited.
2. Approximately 36 hours in advance of tropical storm winds, a mandatory evacuation of mobile home residents, special needs residents, and hospital and nursing home patients from the Keys shall be initiated.
3. Approximately 30 hours in advance of tropical storm winds, a mandatory phased evacuation of permanent residents by evacuation zone (described below) shall be initiated. Existing evacuation zones are as follows:
  - a) Zone 1 –Key West, Stock Island and Key Haven to Boca Chica Bridge (MM 1-6)
  - b) Zone 2 –Boca Chica Bridge to West end of 7-mile Bridge (MM 6-40)
  - c) Zone 3 –West end of 7-Mile Bridge to West end of Long Key Bridge (MM 40-63)
  - d) Zone 4 –West end of Long Boat Key Bridge to CR 905 and CR 905A intersection (MM 63-106.5)
  - e) Zone 5 –905A to, and including Ocean Reef (MM 106.5–126.5)

The actual sequence of the evacuation by zones will vary depending on the individual storm. The concepts embodied in this staged evacuation procedures should be embodied in the appropriate operational Emergency Management Plans. The evacuation plan shall be monitored and updated on an annual basis to reflect increases, decreases and or shifts in population; particularly the resident and non-resident populations.

### **PART THREE: MISCELLANEOUS**

**A. Liability.** As this MOU represents only the Parties' acknowledgement of the data, input variables, and assumptions DEO has utilized in its hurricane evacuation model, nothing in this MOU shall be construed to impose any liability on the State of Florida, DEO, the Division, or the Local Governments. Nothing in this MOU may be interpreted as a waiver of sovereign immunity by any

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Party. Any provision of this MOU that is inconsistent with the State's sovereign immunity statute shall be considered null and void.

B. **Modification.** Modifications to the Memorandum of Understanding shall be valid only when reduced to writing and duly signed by all parties.

C. **Severability.** If any term or provision of this Memorandum of Understanding shall be invalid or unenforceable to any extent, the Parties agree to comply with remaining terms and provisions, unless compliance with the remaining terms and provisions would prevent the accomplishment of the original intent of the agreement between the Parties.

D. **Termination.** Any Party may terminate this Memorandum of Understanding at any time, with or without cause. Termination shall take effect upon receipt of written notification by a Party to all other Parties.

E. **Notification.** Notifications under this MOU shall be made by hand delivery, U. S. certified mail, return receipt requested, or an express mail service that provides proof of delivery. Notification by a Party to the DEO shall be directed to the Areas of Critical State Concern Administrator, Department of Economic Opportunity, 107 East Madison Street, Tallahassee, FL 32399-4128. Notification to the other parties to this Memorandum of Understanding shall be directed as follows:

1. **Monroe County.** Mayor, Monroe County, 2798 Overseas Hwy. Marathon, FL 33050 with a copy to the Growth Management Division Director, 2798 Overseas Hwy. Marathon, FL 33050.
2. **City of Key West.** Mayor, City of Key West, 3126 Flagler Avenue Key West, FL 33040, with a copy to the Planning Director, 3126 Flagler Avenue Key West, FL 33040.
3. **City of Marathon.** Mayor, City of Marathon, 9805 Overseas Highway Marathon, FL 33050, with a copy to the Planning Director, 9805 Overseas Highway Marathon, FL 33050.
4. **City of Layton.** Mayor, City of Layton, 68260 Overseas Highway, P.O. Box 778 Long Key, FL 33001.
5. **City of Key Colony Beach.** Mayor, City of Key Colony Beach, P.O. Box 510141, Key Colony Beach, FL 33051-0141 with a copy to the City Clerk at P.O. Box 510141, Key Colony Beach, FL 33051-0141.
6. **Islamorada, Village of Islands.** Mayor, Islamorada, Village of Islands, 86800 Overseas Highway Islamorada, FL 33036, with a copy to the Director of Planning and Development Services, 86800 Overseas Highway Islamorada, FL 33036.
7. **Division of Emergency Management.** Director, Florida Division of Emergency Management, 2555 Shumard Oaks Boulevard, Tallahassee, FL 32399-2100, with a copy to the Division's Hurricane Program Manager at the same address.

F. **Effective Date.** This Memorandum of Understanding is effective upon execution by all parties and approval by the Florida Administration Commission and ends upon the termination of the Florida

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Keys Area of Critical State Concern designations, unless terminated earlier according to Part 4(D) above.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Understanding on the dates below written.

CITY OF KEY WEST, FLORIDA

August 24, 2012  
Date



[Signature]  
Cates, Mayor

ATTEST Cheryl Smith  
Cheryl Smith, City Clerk

Approved as to form and legal sufficiency.  
[Signature]  
Shawn Smith, City Attorney



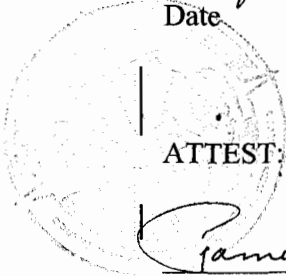
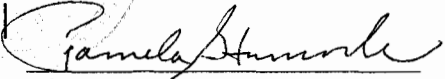
08-02-12

BOARD OF COUNTY COMMISSIONERS  
OF MONROE COUNTY, FLORIDA

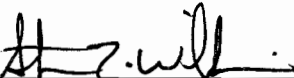
| September 21, 2012  
Date

  
David Rice, Mayor

| ATTEST: **DANNY L. KOLHAGE**, Clerk

  
  
Clerk

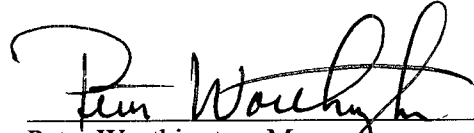
| Approved as to form and legal sufficiency:

  
Steven T. Williams, County Attorney

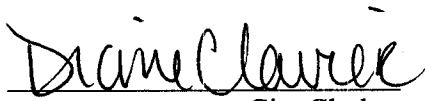
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CITY OF MARATHON, FLORIDA

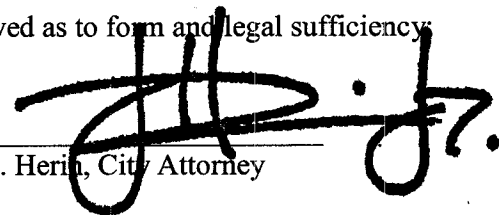
10/4/2012, 2012  
Date

  
Peter Worthington, Mayor

ATTEST:

  
Diane Clavette, City Clerk

Approved as to form and legal sufficiency:

  
John R. Herin, City Attorney

08-02-12

CITY OF LAYTON, FLORIDA

Sept. 18, 2012  
Date

Norman S. Anderson  
Norman S. Anderson, Mayor

ATTEST:

Mimi Young  
Mimi Young, City Clerk

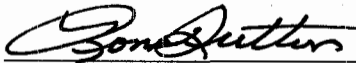
Approved as to form and legal sufficiency:

[Signature]  
City Attorney

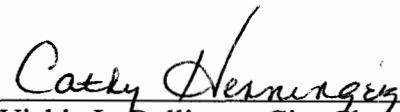
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CITY OF KEY COLONY BEACH, FLORIDA

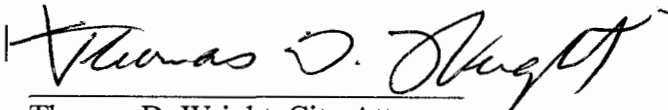
8/27, 2012  
Date

  
Ron Sutton, Mayor

ATTEST:

  
~~Vickie L. Bollinger, City Clerk~~  
Cathy Henninger

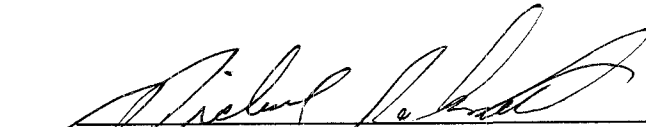
Approved as to form and legal sufficiency:

  
Thomas D. Wright, City Attorney

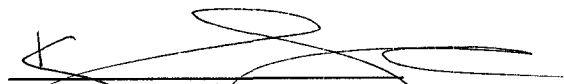
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ISLAMORADA, VILLAGE OF ISLANDS, FLORIDA

September 27<sup>th</sup>, 2012  
Date

  
Michael Reckwerdt, Mayor

ATTEST:

  
Deputy, Village Clerk

Approved as to form and legal sufficiency:

  
Nina Boniske, Village Attorney



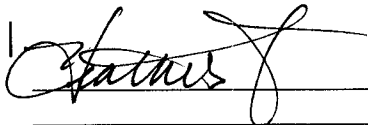
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STATE OF FLORIDA  
DIVISION OF EMERGENCY MANAGEMENT

September 27, 2012  
Date

  
\_\_\_\_\_  
Bryan W. Koon, Director

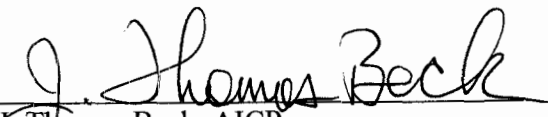
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Approved as to form and legal sufficiency:

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\_\_\_\_\_  
Assistant General Counsel

08-02-12


STATE OF FLORIDA DEPARTMENT  
OF ECONOMIC OPPORTUNITY

November 5, 2012

  
J. Thomas Beck, AICP  
Director, Division of Community  
Development

Approved as to form and legal  
sufficiency, subject only to full and  
proper execution by the parties

Office of the General Counsel  
Department of Economic Opportunity

By:   
Assistant General Counsel  
Approved Date: 11-5-12

08-02-12

**Exhibits to**  
**Hurricane Evacuation Clearance Time Memorandum of Understanding**

- Exhibit 1      Statewide Regional Evacuation Study Table of Traffic Evacuation Zone Occupancy Data: Hotel, Motel and other Vacation Rental Units
- Exhibit 2      Statewide Regional Evacuation Study Table of Traffic Evacuation Zone Occupancy Data for Site-Built and Mobile Homes
- Exhibit 3      Listing of the vehicle count and usage by Traffic Evacuation Zone (based on the 2010 Statewide Regional Evacuation Study)
- Exhibit 4      Percent of vehicles owned that will be evacuated (based on the 2010 Statewide Regional Evacuation Study)
- Exhibit 5      Identification of contributing vehicles from Naval Air Station–Key West and Florida Keys Community College.
- Exhibit 6      Roadway Capacity, dated July 18, 2010, established by the Florida Department of Transportation

## APPENDIX D

Phase II Scenarios		Category 5/ Level E
Scenario Name	Participation	90%
M5	2010 Census site-built units with a 912 military unit adjustment 3,550 projected new units for 10 years, 1,248 mobile homes projected to convert to site-built units and coning for MM 108-126. <b>(44,630 - 912 + 3,550 + 1,248) - Evacuating Units 27,297</b>	24 hours
BA-3	2010 Census site-built units with a 912 military unit adjustment 3,550 projected new units for 10 years, 1,248 mobile homes projected to convert to site-built units, 792 anticipated allocations for the period of July 2010 through June 2013 since the 2010 US Census, and coning for MM 108-126. <b>(44,630 - 912 + 3,550 + 1,248 + 792) - Evacuating Units 27,900</b>	24 hours

Phase I Scenarios		
Scenario Name	Participation	100%
T1	Existing tourist units, additional 100 tourist units in Marathon, mobile homes, and military; tourist units modeled using tourist occupancy rates for July <b>(13,665 + 100 + 8,134) - Evacuating Units 16,021 + 2,338 vehicles</b>	16 hours & 30 minutes
T5	Existing tourist units, additional 100 tourist units in Marathon, additional 215 units in Key West, mobile homes, and military; tourist units modeled using tourist occupancy rates for Saturday, September 3, 2011 – Labor Day Weekend <b>(13,665 + 100 + 215 + 8,134) - Evacuating Units 17,884 + 2,338 vehicles</b>	17 hours & 30 minutes
VSBT	Existing tourist units, additional 100 tourist units in Marathon, vacant site-built units, mobile homes and military; tourist units and vacant site-built units modeled using tourist occupancy rates for July <b>(13,665 + 100 + 16,577 + 8,134) - Evacuating Units 28,958 + 2,338 vehicles</b>	23 hours & 30 minutes

## Hurricane Evacuation Workshop Minutes

Jan 30, 2012

Mayor Pete Worthington, City of Marathon, welcomed the group and introduced the participants. He announced that all the presentations could be viewed on the Department of Economic Opportunity's web site at the following link:

<http://www.floridajobs.org/community-planning-and-development/programs/areas-of-critical-state-concern/florida-keys-hurricane-evacuation>

Jeff Alexander, with the Northeast Florida Regional Planning Council, provided a report on the Division of Emergency Management's development of the regional emergency evacuation model's capability (*Statewide Regional Evacuation Study Program Model* on DEO website link). He provided information regarding the technology used to develop the software and the origin of the data. Mr. Alexander indicated that the evacuation modeling used a uniform statewide approach for each county in the state and has received several awards. Additionally, he presented new storm surge data and how hurricane storm events are being separated (wind from storm surge) since there is no direct correlation between the height of the storm surge and the wind intensity. The scenarios produced by DEM utilize 100% participation whereas in the past, the Miller model used a lower participation rate.

Christine Hurley, with Monroe County Growth Management, reviewed the Administration Commission's (Governor and Cabinet) adopted rules for the Florida Keys (e.g. Rule 28-20.140, F.A.C.). She presented the 5 Work Program tasks related to hurricane evacuation modeling and completing an analysis of maximum build-out capacity for the Florida Keys. The rules include tasks to update the census data and to develop build out scenarios and reach consensus on a Memorandum of Understanding regarding the Hurricane Evacuation Model's assumptions and variables (*Administration commission Directive and Progress* on DEO website link). She pointed out that the Administration Commission task will result in the need to amend each local government's comprehensive plan to reflect ten years growth. The Department of Economic Opportunity will report back to the Governor and Cabinet regarding the various hurricane scenarios runs with a recommendation for the new allocation and distribution of growth between the local governments.

Rebecca Jetton, with the Department of Economic Opportunity, provided the history of how the 24-hour hurricane evacuation clearance time standard evolved and the linkage to hurricane forecasting capability (*Myths and Facts* on DEO website link). She discussed the potential outcomes of the meetings and how the rate of growth will likely need to be amended to revise the amount and distribution of new development in order to develop a ten year planning horizon and maintain the 24-hour standard. She stated that the workshop could result in a reduction of units per year for each local government or a new distribution of units to each local government based

upon the variables that are selected and after the group reviews the placement of development to see how that affects the 24 hour evacuation time. She indicated that each local government should carefully review the number of vacant buildable lots within their jurisdiction. She stressed the need to reduce the liability of each local government to potential “takings” cases. If the evacuation time is exceeded and privately owned vacant buildable lots continue to be available, this could increase the potential liability for takings. She explained that each local government must balance private property rights while ensuring public safety. Based upon preliminary data, the following vacant lots exist within each local government.

Monroe	8758	Key West	84
Marathon	1281	Key Colony	92
Islamorada	1109	Layton	13

The Work Group indicated that there must have been an improvement in evacuation clearance time based upon the loss of population and the improvements that have been made to US Highway One. Ms. Jetton clarified that the improvements made to US 1 have not resulted in additional capacity for hurricane evacuation. She stated that the Florida Department of Transportation (FDOT) will provide a presentation regarding the sustainable capacity of US Highway One at the next meeting. Ms. Jetton provided an overview of previous recommendations made by several Work Groups in the past to improve hurricane evacuation clearance time. She stated that attempts to widen the 18-mile stretch had resulted in a law suit. Recommendations for creating an additional lane with the use of coning had been dismissed because of the time required to set up the cones, the time lost when cars queue up to cross over multiple bridges, and that certain employees would have to be designated and remain behind to handle the cones while their families evacuated. This led to a discussion about the construction of shoulder enhancements to create an additional lane for evacuation purposes only and that the Florida Department of Transportation has provided funding for the enhancements within the FDOT 5-Year Work Plan. The group also discussed the Division of Emergency Management’s preference that the shoulder enhancement lane be used for emergency or disabled vehicles and that in areas that were already 4 lanes, the Monroe County plan contains a policy that additional lanes beyond four lanes cannot be counted toward capacity for hurricane evacuation. The issue regarding the shoulder enhancements will be included in the Memorandum of Understanding between all the local governments.

Mr. James Franklin, with the National Hurricane Center, reported on the current capability of forecasting at the National Hurricane Center. He indicated that the Center has improved in its ability to project where a hurricane will make landfall. The ability to predict intensity beyond 48 hours continues to be limited. Projection of landfall has improved from 24 hours to 36 hours; however, Mr. Franklin cautioned the Work Group stating that rapid intensification of a hurricane system is still a major issue with forecasting. He indicated that the Weather Forecasting Services



routinely misses intensity (off by 1 category). He said that the hurricane track error increases by 45 miles/day. Track errors include: speed (timing) and location. He gave the following example: 48 hours in advance of storm (center of storm): Intensity is off by 15 knots and the track is off by 90 miles. 24 hours in advance of storm (center of storm): Intensity off by 11 knots and track is off by 51 miles.

Richard Ogburn, with the South Florida Regional Planning Council, provided a review of how the census data is obtained and the intervals for receiving the American Communities Surveys (*Census Data in the Statewide Regional Evacuation Study Program* on DEO website link). He described how the data contains three sets of cumulative sampling estimates: 1-year, 3-year and 5-year. The 5-year is considered the best since it has a larger sampling base than the 1-year and 3-year. He explained that data is collected from the US Census block group level which is the smallest geographical unit utilized by the US Census which contains housing characteristics. There are approximately 76 census block groups in Monroe County. These census block groups are then aggregated into 40 Traffic Evacuation Zones. Mr. Ogburn also indicated there are approximately 20,000 dwelling units that are classified as vacant that are considered vacant and are not counted in the evacuation stream. Afterwards, the group discussed mechanisms that might assist in determining if some of these units are actually occupied as vacation rentals/second homes.

Barbara Powell, with the Department of Economic Opportunity, provided data regarding human behavior including percentages of how and when people will evacuate (*Behavioral Surveys* on DEO website link). She summarized human behavioral surveys taken by Dr. Earl Baker for the Regional Evacuation including surveys of hotels and mobile homes. She stressed that more people will participate in an evacuation based upon the perceived severity of the hurricane event and the urgency and clarity of the evacuation notice. With regard to a hotel survey that was taken by Dr. Baker, those results indicate that 93% of the tourists in hotels in the keys would evacuate the first day. Approximately 30% of the hotels would close within 12 hours of the evacuation order; 66% of the hotels would close within 24 hours of the evacuation order; 18% of the hotels would not close until landfall; and 3% of the hotels would not close. Ms. Powell indicated that the surveys show that 15-20% of any type of housing leave before the mandatory evacuation order is given. She stated that individuals are reluctant to leave after 8 pm. After Ms. Powell's presentation, the group discussed adopted comprehensive plan policies that direct mobile home owners to evacuate 36 hours prior to anticipated landfall of hurricane force winds and how the notice for mobile home occupants would occur at 7 pm at night if the tourists were notified to leave at 7:00 AM. The behavioral studies also indicate that mobile home occupants' behavior is much like the behavior of individuals residing in a site built home and that it would take longer for a mobile home occupant to respond than it would for a tourist to respond and evacuate. The group discussed running scenarios with some portion of the mobile home units added in to the site built evacuation. The group discussed the need to educate the public so that

mobile home occupants will evacuate with the tourists because mobile homes are considered more vulnerable to damage. Mayor Worthington requested that staff compare the evacuating cars counted by FDOT for the links and compare that number to the sustained capacity report developed by FDOT.

Mayté Santamaria, with Monroe County Planning & Environmental Resources, gave an overview of the various models that have been utilized and the variables of each model (*History of Modeling in Keys and Parameters* utilized on DEO website link). She stated that the original Rate of Growth Ordinance (ROGO) allocation was based on the ability to achieve a 30-hour evacuation with the long term goal of achieving a 24 hour evacuation. At the time of adoption of the Monroe County Comprehensive Plan, 35 hours was adopted as the existing clearance time. When the Monroe County Comprehensive plan was challenged and finally resolved, the Final Order found that the maximum acceptable clearance time should be 24 hours because of the National Weather Service's ability to forecast storms, forecast errors, and a lack of shelters. Mayté provided a brief summary of the models utilized in the Keys, including the PBS&J model, Miller model, SFRPC model, and the new Division of Emergency Management TIME model). She discussed the Miller Model, explaining the model is a spreadsheet-based program executed in Microsoft Excel. The model is comprised of 39 Excel spreadsheets, 31 of which relate to individual roadway segments. The 31 roadway segments are defined by roadway cross-section, capacity, and mile markers. She stated the Division of Emergency Management has developed a program called TIME/CUBE which has dynamic traffic assignment capabilities. This model is developed in Cube with a custom built GIS based graphic user interface. The Florida Keys Area of Critical State Concern Program now utilizes the model prepared by the Division of Emergency Management. Ms. Santamaria explained that the PBS&J model and the Miller model used a 45% occupancy rate for hotel occupancy. The TIME model currently utilizes an 85% occupancy rate for hotel units for the Phase 1-Day 1 evacuation. Dick Ogburn stated the 85% occupancy rate for hotels represents a worst case scenario for tourist units. The group discussed completing some model runs using the Smith Travel data that contains current hotel occupancy for the upper, lower, middle keys and Key West. Mayté Santamaria gave an overview of the other variables that have been used in previous evacuation models including the PBS&J and Miller models. (The TIME model scenarios published by the Division of Emergency Management assume that all tourists and mobile homes have evacuated before the permanent evacuation is initiated. It has been reported by DEO staff that Phase 1-Day 1 evacuation of mobile home and tourist units can be accomplished in 17 hours).

There was discussion regarding the fact that it takes special needs individuals up to 30 hours to evacuate for a hurricane storm event. The Special Needs population is notified to leave 48 hours prior to landfall of hurricane force winds. John Hammerstrom expressed concerns regarding safety and stated that with the current configuration of the model (Day 1 and Day 2) that it gives the impression that additional tourist units can be added because they do not affect the Day 2 Phase (site-built units). Rebecca Jetton pointed out that while it appears that there is a buffer

between Day 1 and Day 2, the model processes cars until midnight and this is inconsistent with the behavioral surveys that show that people do not like to evacuate after 8 PM. There was group discussion regarding the number of vehicles per unit data; the tourist occupancy rate; the tourist population calculated in the model; storm surge and storm wind categories; and various scenarios.

Don Craig questioned how the Naval Air Station-Key West orders military personnel to evacuate and when the families of military personnel leave in reference to the TIME model and indicated that additional information is needed. The following information is found in the Human Behavior Studies completed by Dr. Baker for the Department of Community Affairs.

### ***Evacuation of Military Installations***

*At the suggestion of Monroe County Emergency Management, a representative of Key West Naval Air Station was interviewed with respect to the installation's evacuation procedures. Although there are other military installations in the Keys, the Naval Air Station is the largest, and procedures followed by others were thought to be similar. Jim Brooks, the Public Information Officer, was interviewed.*

*There are 1,676 uniformed military personnel in the Keys, including all installations, with 1,015 family members. There is up to 459 military training personnel in addition who would be flown out in an evacuation. Other personnel and their families would drive their own vehicles in and evacuation. Up to 100 would remain on base. Civilians assigned to the base number 848. No one would evacuate prior to an evacuation order being issued by the County. (The exception presumably would be personnel removing equipment.) Salary and expenses would be paid during a mandatory evacuation and NAS reserves hotel rooms in Orlando for personnel and dependents. Mr. Brooks estimated that 90% of personnel and families would leave within 6 hours of the evacuation order and 98% would be gone within 12 hours. His general impression was that vehicle ownership would be comparable to the general population. It is possible that a larger percentage of available vehicles would be taken in an evacuation because certain personnel would be required to return to the base within 24 hours of passage of a hurricane.*

The following is a list of actions that the group requested.

### **Action Items:**

Contact Florida Keys Electric Cooperative to request any studies that would indicate the number of vacant units through reduced electric consumption.

Contact Florida Keys Aqueduct Authority to request any studies that would indicate the number of vacant units through reduced water consumption.

Contact Division of Motor Vehicles to establish the number of licensed vehicles in Monroe County. Compare to number of cars that are being counted in model to validate the number.

Contact Naval Air Station-Key West to ascertain what type of evacuation policies are being utilized for military personnel and for military dependants.

Post presentations and other pertinent documents from the first workshop to website.

Determine if any schools meet hurricane shelter requirements (this is being done by the County, coordinating with DEM)

Mail out draft Memorandum of Understanding.

Report on the percent (and/or number) of units that are second homes. Determine the number of rented occupied homes from US Census. Reduce the number of non-homesteaded units by this number to find a rough estimate.

The Working Group discussed problems with citizens gaining entry after a storm event and that an effort be made to shorten the time involved in re-entering the county. Some members thought that the delays encountered in re-entry resulted in a decrease in the participation level. The group discussed the low percentage of citizens who go to a hurricane shelter during an evacuation. The Emergency Management Director was requested to contact Dave Halstead at Division of Emergency Management (DEM) to discuss the potential for funding or retro-fitting a building as an evacuation shelter in Key Largo or in Dade County. The DEM has available 3 million per year for this purpose

#### **Evacuation Scenario Requests:**

**Commissioner Murphy & John Hammerstrom** requested a worst case scenario model run. Day 1- including tourist, mobile and site-built units.

**Christine Hurley** requested a model run including vacant, private, non-habitat lots for all jurisdictions within the site-built (Day 2) run

The group discussed completing a model run with 10 years of growth at the current allocation.

Rebecca Jetton and George Garret made a request for a model run with mobile units added to site-built units.

**Participation rates:** Add the vacant dwelling units from Phase 2-Day 2 to the Phase 1-Day 1 mobile home and hotel evacuation stream. The hotels participate at 85% occupancy. The dwelling units would be considered 100% occupied and another run with 70% occupied.

**Occupancy rates** for hotels: Use the Smith Travel results which break out the occupancy into different percentages for upper, lower, middle keys and Key West.

**Dwelling units:** Revise the number of dwelling units to reflect the 2010 census numbers.

**Road map Segment:** Eliminate segments of North Roosevelt in Key West for two years that will be closed.

## **Hurricane Evacuation Workshop Minutes February 27, 2012**

Commissioner Teri Johnston, City of Key West, welcomed the group and thanked Monroe County for allowing the use of the Harvey Government Center. Commissioner Johnston recognized members of the audience.

Naval Air Station (NAS) Key West Emergency Manager Steve McBride provided information regarding the phased procedures for evacuation of the NAS Key West. Mr. McBride began with explaining that there are five CORES (Condition of Readiness) (not related to hurricane category):

- CORE 5 – 96 hours out from destructive force winds (50 knots or greater),
- CORE 4 – 72 hours out,
- CORE 3 – 48 hours out,
- CORE 2 – 24 hours out
- CORE 1 – 12 hours out

During each CORE there are certain events triggered, such as shuttering up by facilities management. There are 4,000 personnel and 2,025 vehicles. A question was asked as to whether the 4,000 included family. Mr. McBride stated that it did include Navy personnel and their dependents but only those residing on the base not those living in civilian housing off the base. Mr. McBride further clarified that of the 2,025 vehicles; there would be approximately 100 RVs. When asked how many personnel remain, Mr. McBride stated that 90 personnel remain – mainly security, fire control and command staff; those personnel shelter at the jail. Mr. McBride stated that the RVs are ordered to evacuate at 48 hours out, following the Monroe County Emergency Management Director’s instruction. Mr. McBride stated that the 4,000 personnel/dependents will generally leave at the CORE 2 – at 24 hours. There are 890 housing units<sup>1</sup> generating the 4,000 personnel/dependents. A discussion took place regarding whether the model captured those personnel who live off base – it is capture by the Census and therefore included in the model. Mr. McBride was asked if the navy would evacuate at the 48 hour mark if instructed by the County Emergency Management Director. Mr. McBride responded by saying they would follow the County instructions.

A series of questions were submitted by John Hammerstrom and Don Craig. Each question will be read into the record and answered.

**Question 1** Monroe County’s new “Official” clearance time is expected to be based on a computer estimate of the time it would take permanent residents to evacuate to Florida City under one of thousands of possible scenarios. Transient (tourist) units and mobile home units are currently not included in this “Official” clearance time. According to Monroe County Comprehensive Plan Policy 216.1.8, those two groups are evacuated 48 hours and 36 hours prior to expected landfall of tropical

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<sup>1</sup> This number has since been revised as of July 13, 2012 to 912 military units, pursuant to further correspondence with Naval Air Station – Key West.

storm forced winds, respectively. It has been stated that under one reasonable scenario using the SRESP model, it takes 17 hours to evacuate the tourists and mobile homes residents. If that is so, then adding transient units and mobile homes to Keys housing stock would not affect the “Official” clearance time until they impinge on the evacuation of the permanent residents in site-built homes. **How many transient (tourist) units alone could be built without affecting the clearance time of the permanent residents in site-built homes?**

**Answer:** Barbara Powell answered by stating that the Department (DEO/ACSC) can model to see how many transient units can be added to the first phase of evacuation but before we take on that task there should be some community choice made as to whether hotels should be built, where those hotels will be built. There are two phases of evacuation, the first 24 hours when transients and mobile homes are evacuated and the second phase when permanent population is evacuated. If you begin to “fill up” your first 24 hours and eliminate the buffer between the two phases of evacuation, that too needs to be a community choice. John Hammerstrom stated that his concern was that a developer could argue X number of transient units would not impact the official clearance time and could be built outside the ROGO units that are allowed. Barbara Powell responded by stating that hurricane evacuation is but one factor in allowing additional units and that the community would need to consider whether additional hotels are wanted or needed. Christine Hurley pointed out that the buffer is shortened by 6 since the comprehensive plans have a policy that begins evacuation of the permanent residents at 30 hours. John Hammerstrom went on to clarify that regardless of the policy, the statute requires 24 hours. Therefore, with transients and mobile homes evacuating at 17 hours, there are 7 hours that could be filled with transient and mobile home units without effecting the clearance time that’s used to issue permits.

**Question 2** How many mobile home units alone could be built without affecting the clearance time of the permanent residents in site-built homes?

**Answer:** Barbara Powell answered by stating that the trend on mobile home conversion is that mobile homes have been decreasing over time and there have been conversions to site-built homes. It would probably be more logical to run scenarios that would decrease the mobile home numbers and adding them into the site-built units with a ratio based on the trend. John Hammerstrom expressed concern that maybe we have created an incentive to build transient and mobile home units. Rebecca Jetton state that it may lead to a modification of the policy which is part of the purpose of the meetings. Dick Ogburn added that there is a behavioral question – typically the order to evacuate is given at a time of day consistent with people’s willingness to evacuate (normally early in the morning) to assume that people will continue to evacuate in a full 24-hour period is not realistic. The capacity to evacuate in phase 1 may not be the 24 hours in the scenarios. Don Craig added that there are Florida Building Code and local policies that restrict additional mobile homes because they could not meet the minimum wind force restriction (150 mph). Clark Snow stated that in these mobile home conversions to modular homes that



were larger, does the model take into account the increased number of people living in the modular unit. Dick Ogburn answered that the Census would account for the increase.

Mayor Worthington asked if the phased evacuation wouldn't be a call by Emergency Management to make the call about when evacuation would take place. Rebecca Jetton stated that the county had advised her that Emergency Management would not call for an evacuation at night, having the mobile home evacuation in the policy at 36 hours should be addressed at these meetings. Human behavioral studies show that people don't evacuate at night and that people in mobile homes act more like those who live in site built homes. It is her recommendation to evacuate at the 48 hour mark.

Commissioner Sylvia Murphy expressed concern that mobile home residents be considered anything other than permanent residents. The residents of mobile homes are the workforce that we rely on to close up the county (board up the homes and moving the boats to safety) and to clean up after the storm. Jodi Weinhofer stated that the transients do evacuate early – the evacuation notice goes out earlier than what is required because it is essential to notify tourists before they leave for the day's activities.

Irene Toner stated that mobile home residents are ordered to evacuate earlier because their home is not as safe as a site-built home. She also spoke about behavioral studies that indicate a disconnect between what a person says they'll do in an evacuation and what they actually do. During Georges (a high category 2) about 46% evacuated. During Wilma – we told people they don't have to worry about the wind damage but we're going to have a storm surge. We told people to move their vehicles to higher ground and evacuate – less than 10% left. The studies are not as important but you can't really predict what people are going to do. Some people say they won't leave in a Category 4 because their great great grandfather stayed in a Category 4.

The important thing for us is when a storm is 72 hours out we start our calls and evacuation of tourists and patients then mobile homes and residents. One thing to keep in mind is that our decisions are largely based on what Miami-Dade does. During Hurricane Ike, we were making decisions (Ike was a Category 4 that was predicted to go over the Seven-mile Bridge. Miami-Dade and Broward were in the cone. During the conference call with the other Emergency Management Directors, Miami-Dade and Broward said that they were going to begin evacuating their Zone A at 5:00 am. This represented 500,000 people – so the Keys evacuation decisions needed to move up in order to account for the potential for 500,000 people to begin evacuating. Irene emphasized that her decisions are based on the regional effect. The biggest fear is an escalating storm – hurricane Charley passed over the Keys at a Category 1 and was supposed to hit Charlotte County at a Category 2 – it escalated to a Category 4 in a matter of hours. Emergency Management's decision is based on the time of year, the number of residents, the number of tourists (we work closely with TDC), the occupancy of the parks. At 72 hours we are already in touch with the County and talking with the hotels, and our regional partners in Miami-Dade.

Sylvia Murphy said after listening to Irene, we need to plan for the worst-case scenario.

- Question 3** Referring to Table ES-12 - “2015 Clearance Times for Base Scenario” (Volume 4-11, page ES-27), would you please explain:
- a) **Why, for all Monroe clearance times, is the “In-County Clearance Time” 1/2 hour greater than the equivalent “Out-of-County Clearance Time?”** It is strange that a greater distance would result in a shorter time. [Aside from that, one would expect that for a Level C or greater threat, all evacuations for Monroe County are “Out-of-County” and therefore the “In-County Clearance Time” section for Monroe County should be N/A or zero.]
  - b) **Since there are more vulnerable people and shadow evacuees for greater storm threats, how can the Regional Clearance Time for Level D be the same as for Level C?**

**Answer Part a)** Jeff Alexander answered both parts -- The short answer is the model itself has a 30 minute indicator. When the model was run for the in-county and out-of-county clearance the results landed on different sides of the 30 minutes – time-wise there is almost no differential. As far as the In-County clearance time being zero it’s a calculation that the model makes as to populations that are (based on the behavioral analysis) going to seek shelter not necessarily outside the county – even though that’s where they’re ordered to go. The time is calculated regardless of the factors.

**Answer Part b)** At Level C the population leaving the Keys is not overly impacted by the overall regional evacuation and that holds true for Level D. It’s not until Level E that you begin to get other factors that affect the region clearance time. In other words, there is capacity on the roads that is not affected between Levels C & D but is affected when you get to a Level E. Tyson Smith asked to get clarification on the term “shadow evacuation” and what it was for Monroe County. Richard Ogburn explained that shadow evacuation is the population that evacuated but were not ordered to evacuate. All of Monroe evacuates for a Level C or higher, so there are no shadow evacuees. There are however, shadow evacuees in a regional evacuation scenario in Broward and Miami-Dade counties.

- Question 4** **Operational Scenarios 1, 2, 3, 4, 5 and 13 (Table ES-10, Volume 4-11, p. ES-22) assume “Miami-Dade County and Broward 24 hours after Monroe.” Does this mean 24 hours after Monroe starts their 48-hour evacuation, the full Miami-Dade and Broward evacuations for that Level are concurrent with the Monroe County permanent population evacuation? Please clarify.**

**Answer:** Jeff Alexander responded by stating, the calculations are based on the 24 hours when the general order is given to evacuate Monroe County.

**Question 5** From Volume 4-11, page II-7, “Two sets of curves were developed, one for coastal evacuating counties that represent **lower** background traffic and one for all other counties representing **greater** background traffic [my emphasis]. The model then adjusts capacities up and down consistent with these curves as it simulates the evacuation.” Figures II-2 and II-3 indicate that during the daylight hours, background traffic for coastal counties is 1/2 that of other counties, which means that for other than coastal counties during daylight hours, only 50 - 70% of highway capacity remains for evacuation, but for coastal counties during the same hours, 80 - 90% of capacity is available for evacuation. **Why is the background traffic lower for coastal counties?**

**Answer:** Jeff Alexander answered by stating the background traffic for coastal counties is reduced as evacuating vehicles enter the network. So that population within the area ordered to evacuate – those vehicles, once they finalize their preparations they are no longer engaged in their routine activities and no longer contributing to background. There is a progressive reduction in background traffic during the evacuation event. The traffic is moving into the Counties that are not evacuating, thus increasing the overall traffic on those roadway networks therefore making less roadway capacity available for the evacuation. That’s how the model handles the increase/decrease for roadway capacity available for evacuation. It’s might be important to note that a coastal county that does not have an evacuation order in effect would also have the capacities of an inland county during that particular modeling session.

**Question 6** The Dynamic Traffic Assignment (Volume 4-11, page ES-4) describes two curious characteristics: The “General Model Flow” indicates that one step in the flow is to “Adjust background traffic,” while the other curious statement is, “By dynamically adjusting the travel times and speeds of the vehicles moving through the network as they respond to congestion, the model is able to . . . adjust the routing of traffic throughout the network as a function of congestion as it occurs throughout the evacuation.” That sounds like the model will optimize an evacuation to generate the minimum clearance time for a given scenario, which seems to be at odds with the greater chaos of an actual hurricane evacuation. **Can you explain how this seeming “optimization” does not deliver a best-case clearance time?**

**Answer:** Jeff Alexander answered by stating it is not an optimization of the clearance time. What dynamic traffic assignment does is – as a roadway network becomes congested the model

simulates human behavior in that if you are confronted with extreme congestion and you know another route you will attempt to use that other route until it becomes so congested and then traffic starts to slow down across the network. Even you are attempting another route to avoid congestion – your may attempt a route that is congested. So, it doesn't necessarily optimize the clearance time what it does is try to emulate human behavior in that they will seek out an alternate route. In Monroe County it is very limited because there are very few alternate routes available to motorist.

**Question 7** Volume 4-11, Page II-2 states, “All evacuations begin when an order to evacuate has been issued.” **Since our evacuation starts 48 hours prior to the expected landfall of Tropical Storm Force winds, doesn't that mean Monroe County has a 48-hour clearance time?**

**Answer:** Jeff Alexander answered by stating, that from the modeling perspective we calculated the scenario based on the two phases provided. How you define the phasing is a policy based question – our math was based on the different staging. Rebecca Jetton added that we think of that first phase as mitigation. Mitigation is done by trying to get some people out early.

**Question 8** *“Clearance Time, Out-Of-County: The time necessary to safely evacuate vulnerable residents and visitors to a “point of safety” within the county [my emphasis] based on a specific hazard, behavioral assumptions and evacuation scenario. Calculated from the point an evacuation order is given to the point in time when the last vehicle assigned an external destination exits the county.”*  
Volume 1-11 Glossary **Do we need a unique definition without “visitors?” Is “within the county” correct?**

**Answer:** Jeff Alexander stated that he doesn't think we need a separate definition for the vulnerable population evacuating and whether we calculate the inclusion of visitors or not. As far as, “Is within the county correct?” People do seek shelter within the county – what we are trying to determine is the last car that leaves the evacuation network either by seeking shelter within the county or leaves county – when the last one leaves the county we get this time. If we discount the “leave the county” part then you calculating the in-county clearance time. John Hammerstrom asked which calculation of clearance time applies to Monroe County if you have this one that includes the tourists in it? Jeff responded by stating that this is the definition by how the timing itself is developed – the definition for the entire state. We take the tourists out when we calculate for Monroe County. John asked for further clarification by asking when we look at an evacuation clearance time on the matrix and it's going to be label one of a few different possibilities, one of them is the “out of county” clearance time and the regional clearance time – Which one of those is applicable to Monroe County for growth management. Dick Ogburn

responded by stating that was something the Department would decide on along with this group. From our perspective, the calculation of the clearance time for Monroe County that's in the Study, the out-of-county clearance time is the measured clearance time to the county boundary because there's no assumption for in-county evacuation. Rebecca Jetton pointed out that in the Work Group notebooks, there is a letter from the Department of Community Affairs with a glossary of terms. The letter contains a "proviso." DCA will handle Monroe County somewhat differently than the rest of the state. We have a unique situation here. In the rest of Florida, when development is located in the CHHA and the local government has exceeded the adopted clearance time and a local government wants to increase their density within the CHHA they have to mitigate or they cannot increase their density in the CHHA. They may however, continue to build out platted subdivisions. In the Florida Keys, if we have exceeded the clearance time, theoretically you won't issue any more building permits for new development. We are attempting to strike a balance between public safety and private property rights. We are trying to make this software model fit the policies that you've adopted – to the greatest extent possible. If the policies don't make sense then this will be the local government's opportunity to modify those policies.

**Question 9**     *“Shadow Evacuation Population: Persons not affected by an evacuation order that choose to evacuate to another location they feel is safer. This population resides outside the designated evacuation zone and lives in site-built structures. The shadow evacuation population can be significant when the risk is perceived to be great.”* Volume 1-11 Glossary

The July 14, 2010 letter from DCA to DEM states, “Based on statutory authority above, we conclude that shadow evacuation is an important factor to consider when calculating clearance time. The ability to exit an evacuation zone is dependent upon the road capacities outside the evacuation zones. Therefore, the impact of all shadow evacuees must be taken into account. This should be viewed as a factor integral to determining clearance times. The percentage used to estimate the numbers of shadow evacuees **should be derived from the behavioral analyses** [emphasis added] conducted as part of the SRESP.”

**Table IIIB-1: Evacuation Rate for Residents Living in Site-Built Homes – Miami-Dade County**

Evacuation Rate (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Site-Built Homes</b>					
Cat 1 Surge Evacuation Zone	40	50	65	80	90
Cat 2 Surge Evacuation Zone	30	45	60	80	90
Cat 3 Surge Evacuation Zone	20	25	60	80	85
Cat 4 Surge Evacuation Zone	10	15	30	70	85
Cat 5 Surge Evacuation Zone	8	8	15	55	80
Inland of Surge Evacuation Zones	5	5	5	10	20

*Evacuation rate indicates the percent of residents who will leave their homes to go some place safer from each zone in each storm threat scenario. Figures are based*

*on the assumption that officials order evacuation for surge evacuation zones corresponding to storm category, plus all mobile homes and manufactured homes. Figures also assume that the actual storm track passes very close to the area being evacuated. Shaded cells indicate shadow evacuation – evacuation from areas not included in evacuation notices.*

This appears to indicate that in a Category 3 Storm Threat, only 65% of residents in the Cat 1 Surge Zone and 60% of those in Cat 2 & 3 Surge Zones will evacuate, plus these shadow evacuees: 30% of residents in the Cat 4 Surge Zone, 15% from the Cat 5 Surge Zone and 5% that are inland of all Surge Zones. **What is the behavioral-analysis source of these figures? Would you please show where the number of shadow evacuees are accounted for in clearance-time calculations?**

**Answer:** Jeff Alexander stated the source data behavioral analysis were located in Volumes II and III of the Statewide Regional Evacuation Study Program. It contains the results of the statewide surveys of 18,800 residents. This was the largest ever behavioral analysis for the state of Florida. Drs. Downs and Baker from Florida State University provided much of the data and analysis for the behavioral analysis. Mayte Santamaria added that Dr. Baker conducted the behavioral analysis for the Miller Model.

**Question 10** The caption under Table ES-5 “Vulnerable Population in the South Florida Region for 2015” (Volume 4-11, page ES-17) states, “Vulnerable population numbers are not inclusive . . . for example, vulnerable population listed for Evacuation Zone D does not include vulnerable population listed for Evacuation Zone C.” **Is the same true for Table ES-8 - “Vulnerable Shadow Evacuation Population” (page ES-19 - below)? Are the number of Shadow Evacuees used to calculate clearance times a summation of the current Level and all lesser Levels times the Evacuation Rates (%) of Table IIIB-1 (above)?**

**Answer:** They are not cumulative and should not be. The numbers are the actual numbers for each level of storm. As the storm category increases, a portion of the shadow evacuees are then included with those ordered to evacuate.

**Question 11**

**Table ES-8 – Vulnerable Shadow Evacuation Population**

	Evacuation Level A	Evacuation Level B	Evacuation Level C	Evacuation Level D	Evacuation Level E
<b>2010</b>					
Broward County	160,714	167,817	156,617	257,809	345,043
Miami-Dade County	206,603	172,306	194,056	251,893	450,305
Monroe County	0	0	0	0	0
<b>2015</b>					
Broward County	169,295	176,880	165,025	271,484	363,604
Miami-Dade County	217,855	178,334	202,928	259,579	465,523
Monroe County	0	0	0	0	0

*Note: Vulnerable shadow population determined using SRESP behavioral data and county provided evacuation zones. See section E for the source of the small area data.*

Building on the previous question, is the number of Miami-Dade Shadow Evacuees for a Level E, 2015 evacuation the sum all Levels, or 1,324,219, that would supplement the total Vulnerable Population from Table ES-5 of 500,275, for a grand total of 1,824,494 which is reduced by the Evacuation Rate percentages for each Zone shown in Table IIIB-1 above?

**Answer:** No

**Question 12** Since tourist or transient units do not appear in Tables ES-4 and ES-5 “Vulnerable Population...,” it is unclear if tourists are included in clearance-time calculations. I understand that for Monroe County they are not, but are tourists included in Miami-Dade and Broward County evacuations, and if they are, where are the associated numbers shown?

**Answer:** Volume IV-11 contains the evacuating populations in the published studies. Tourists are not counted in the vulnerable population because this table focuses on the vulnerable *resident* population but tourists are included in the evacuating population as part of the modeling. Both Miami-Dade and Broward order “in-county” evacuations population, this would direct vulnerable populations to other parts of the county based on the direction of the emergency management director. The table simply identifies the number of vulnerable residents based on the storm category.

**Question 13** With regard to the February 8 Draft MOU, assumption II b states “The Monroe County evacuation stream is the only traffic being considered by this planning model.” Does this mean that Miami-Dade’s traffic is not considered? The first paragraph of the MOU states that we will include “regional considerations.” If

that does not mean inclusion of Miami-Dade's traffic, how are regional considerations included?

**Answer:** If the Work Group's desire is to use the regional evacuation, then that will be reflected in the MOU.

**Question 14** Draft MOU, assumption II d. "The Evacuation Level being modeled is for a Level C /Category 3 storm event." **What is the basis for this assumption?**

**Answer:** This is something that the Work Group will decide

**Question 15** Draft MOU: Florida Statute Section 380.0052(9)(a)(2) states, "[maintain]. . . a hurricane evacuation clearance time for permanent residents of no more than 24 hours." **Since mobile home owners are permanent residents, albeit possibly in less-substantial dwellings, why aren't they included in the clearance time calculations?**

**Answer:** When this policy was adopted, a decision was made to evacuate the mobile home residents early. So the studies have reflected that policy choice. These meetings and the MOU process are an opportunity for the local governments to change the policies that are inappropriate. The policies predated the Statewide Regional Evacuation Study Program.

**Question 16** At our January meeting, we learned that no mainland traffic from people entering the Keys to secure second homes is included in our clearance-time calculation. According to 2010 Census data and the 2006-10 American Community Survey, more than 1/3 of Keys' non-tourist dwelling units were considered vacant. Many of those are second homes that will be tended by mainland residents when a hurricane threatens. **How can that additional traffic best be accounted for?**

**Answer:** We are in the process of looking at the available data sets to attempt to come up with a reliable number to account for that additional traffic. Mayte Santamaria from Monroe County has provided us with data sets. Monroe County has also requested a scenario which would place the entire vacant site built units into the transient – essentially counting them as vacation rentals. This would present a worst case scenario. A question was raised as to whether there's been any attempt to quantify the number of owners of second homes that would be coming back into the county in order to ready their home for a storm. The County is attempting to study the property appraiser's data base to determine how many non-homesteaded properties have owners with



Miami-Dade or Broward addresses. Jeff Alexander stated that the model does account for background traffic and that persons coming into the County to attend to homes or boats are included in the background traffic. Jeff said that you would need to run a sensitivity analysis against the calculations that we've already made to determine whether you are impacting the assumptions that have already been made for background traffic behavior above and beyond what's already accounted for in the model. Rebecca Jetton explained that the scenarios are hypotheticals that are tools to be used in the Work Group's decision making.

Barbara Powell stated that questions 17, 18 and 19 were answered by an earlier presentation by Mr. Steve McBride of Naval Air Station Key West.

**Question 20** How were the roadway infrastructure improvements to A1A and N. Roosevelt Blvd. (scheduled for 2012-2015) incorporated into the modeling efforts? What are the anticipated effects?

**Answer:** Ken Jeffries of the Florida Department of Transportation answered by stating that the improvements are not a capacity project. The question was rephrased to ask how the model accounts for the time that the road will be out of service for construction? The concern is that the construction would be for two years. Discussion took place among the members as to whether a 10 or 20 year allocation should be based on a reduction in evacuation capacity for a 2 year transportation project. General consensus was to not place this scenario in the priority list.

**Question 21** What is the feasibility for other net, new allocations to the City of Key West?

**Answer:** Allocations for all local governments will be decided based upon the outcome of these meetings.

**Question 22** Can copies of SLOSH Models be provided for the City of Key West?

**Answer:** The SLOSH model is available on the South Florida Regional Planning Council's website. There is a link to their website from the DEO website.

**Question 23** How do the proposed amendments to the "Administrative Code" correlate with existing Operational Plans?

- LMS—2010;
- CEMP and associated hazard annexes;

- County;
- Municipality;

**Answer:** The Administrative Code referred to in the question is the set of Rules 28-18, 28-19 and 28-20 Florida Administrative Code recently adopted by the Administration Commission which direct the activities of this Work Group. David Halstead stated that it presents an opportunity to update the LMS and CEMP. Short of raising, widening or otherwise enhancing the transportation system out the Keys there is very little mitigation, other than education, available to the Keys. Once the MOU is in place, the Division of Emergency Management would expect to see it reflected in the LMS and CEMP.

**Question 24** As the evacuation/clearance times are established, is there a proposed method of enforcement, for administration and/or operational plans?

**Answer:** The method of enforcement would be the same that is currently in place by the Emergency Management Director. Rebecca Jetton added that there is an opportunity to allow the local governments to pass a code enforcement ordinance regarding transient evacuation that would carry some penalty.

**Question 25** Will the state provide indemnity for jurisdictions, and their representatives, when operational plans are activated?

**Answer:** David Halstead stated that during this process we will be under a Governor's Executive Order. Chapter 252 of the Florida Statutes gives the Governor and the local governments a wide-range of authority. The actions and orders that are given, provided they are lawful and meet the common sense test, would authorize the local governments to do what is needed. As far as indemnity, we have not been sued and it would be difficult for a court to look at what is done during a declared state of emergency. Richard Shine concurred with David Halstead's response.

**Question 26** Is it possible for the State to include Monroe County and municipalities in future maps and presentations, beyond the 106th mile marker?

**Answer:** David Halstead stated that the LMS and CEMP should reflect the new data and the terms of the MOU should be taken into consideration for the operational plans, less so for the mitigation plans.

A question was asked about the ability to use reverse 911 or reverse number lookup to push evacuation information out to residents/tourists. David Halstead noted that many people no longer have traditional land lines and he is working with Craig Fugate at the Federal Emergency

Management Agency to use available cell phone technology to push evacuation information out without a registration process. A system that relies on registration would likely not have a high enough participation rate to be useful. Other tools in the process are evacuation apps for iPhones and Androids that provide information on evacuations and shelters.

Tyson Smith had stated that the MOU. We're trying to make certain assumptions to make planning policies. The MOU recognizes the assumptions about clearance times but doesn't bind the emergency management director and staff who have to make calls on the ground.

Is it possible to identify areas in the State Regional Evacuation model that are Monroe County specific? Barbara Powell responded by stating that there are numerous places in the model that are Monroe County specific, such as the behavioral study, scenarios run for Monroe – some with regional considerations (with Miami-Dade and Broward) and some were Monroe County only. It is more than 3,000 pages – we can pull the Monroe specific and post them to the website.

A presentation was made by the Florida Department of Transportation (FDOT), District 6 – Aileen Boucle, Joaquin Vargus, Ken Jeffries and Brian Wolshon, a professor of Civil Engineering Louisiana State University. Ms. Boucle explained FDOT's role as support staff for the Work Group and to provide information regarding the upcoming FDOT 5-year work plan. Dr. Wolshon gave a presentation on the maximum sustainable evacuation flow rates for US 1. Dr. Wolshon explained that research shows that flow rates recorded during evacuations were lower than those expected from Highway Capacity Manual calculation methods. Evacuation traffic flows consistently peak at rates below HCM "capacity." Flow further decreases to a level that is sustained for 6 to 8 hours or more. These flow rates are also consistent with the highest flow rates recorded during recent evacuations of the Keys and the other peak traffic periods. These flow rates may further be decreased by other inevitable congestion within the network as well as operations at night and under adverse weather conditions. Use of higher than these sustainable flow rates will also likely result in clearance times that are not realistically achievable.

Dr. Wolshon's presentation confirmed that traffic counter data is consistent with findings of behavioral research that suggests that the majority of evacuees travel during daylight hours, regardless of when an evacuation order is issued. Typically, traffic volumes increase steadily from 6:00 am to a peak in the early to mid afternoon. After a drop to a sustainable rate of flow, high travel demand continues into the mid- to late-evening, when volumes drop significantly around 10:00pm to 11:00pm and remains low during the overnight hours.

Joaquin Vargus provided information on the current maximum sustainable evacuation traffic flow rates as used in the hurricane evacuation model which range from 900 to 1200 vehicles per hour. Mr. Vargus provided a brief history of the roadway improvements in the Florida Keys. He stated that the results of the 2001 Florida Keys Hurricane Evacuation was that the 2001 roadway network was not capable of safely evacuating the Florida keys and that it requires additional

hurricane evacuation capacity. A map was shown that demonstrated there are few cars evacuating in the lower keys, 12,289 vehicles at Mile Marker 8 and building to 42,287 vehicles evacuating through Mile Marker 106. Mr. Vargus stated that the A1A improvements should not have a significant effect on hurricane evacuation. Mr. Vargus provided a map that showed the completed and funded projects. He also provided the projects in FDOT's five-year work plan.

Mr. Vargus reviewed the maps with the recommended flow rates and stated that the highest flow rates are found on the 18-Mile Stretch and a segment below Marathon around Mile Marker 40. The segments with the lowest flow rates are the four-lane segments in Key West and Stock Island, the four lane segment around Mile Marker 50 in Marathon and the four lane segment from Mile Marker 90 to 106 in Key Largo.

Commissioner Murphy asked for clarification that the lowest flow rates were on the four lane segments. Mr. Vargus confirmed and reminded the Work Group that these are "per lane" figures.

Aileen Boucle presented information regarding the 10' emergency evacuation shoulder enhancement projects. Monroe County BOCC passed resolution 475-2008 supporting a northbound shoulder width no greater than 4 feet from Mile Marker 93 to Mile Marker 106. The FDOT plans that were developed contained plans with and without the 10' shoulder. FDOT awaits the recommendations of the Work Group and their recommendation. The City Commission of Key West passed resolution 08-13 supporting FDOT'S improvements from Mile Marker 93 to Mile Marker 106 for 10 foot shoulders.

Both behavioral analysis and traffic counter data in the Florida Keys and throughout the state were utilized to conclude that people prefer to evacuate during daylight hours. The data is included in the Statewide Regional Evacuation Study Program (SRESP). A question was asked if this data has been correlated to the times that evacuation orders were given and Dr. Wolshon responded that it had not. However, the time of the evacuation order is shown on the graphs that are in the SRESP. He stated that the data is so consistent that you can see the pattern of evacuation is during daylight hours. As a follow-up, a question was asked if any of the improvements such as turn lanes, changing traffic lights to flashing, etc. were used to evaluate the flow rates. Mr. Vargus stated that yes they were taken into consideration and simulation work was performed that evaluated effectiveness of changing the traffic signals to flashing and it validated the data that was used in the SRESP. A question was asked regarding the reasoning behind Miller Model's method of evacuation of hotel units. Mr. Vargus verified that "For the purposes of this study, (the Miller model) traffic generated by hotels and other tourist units were included in determining clearance time rather than discounted because they will be required to evacuate early. According to the Director of Emergency Management Operations for Monroe County and others, not all hurricanes approaching the Keys will be considerate enough to provide ample time for advance tourist evacuation."

A question was asked about whether or not evacuation through the airport (increased flights) was taken into account when determining the number of cars that evacuated from the Keys. Richard Ogburn responded by saying that there were no adjustments made for the assumption that people would evacuate by means other than a vehicle on the highway. Another question was asked as to how the number of 40,000 vehicles was determined. Dick Ogburn stated that it is a calculation based on the total number of dwelling units (separating site-built, mobile homes), for each of those we have an estimate of the number of people and the number of vehicles that are available for each type of unit. The vehicle usage rate is then calculated for occupied dwelling units. For example a household that has 3 vehicles may only evacuate with one of them. Commissioner Teri Johnston expressed concern that the number of vehicles shown for Key West was high and many households in Key West (10%) do not have cars. The numbers in FDOT's presentation were from the 2001 Study which used 1990 Census data. The SRESP vehicle numbers were based on 2000 Census data brought current with building permit data.

Councilman Don Achenberg noted that in the discussion regarding the 10' wide evacuation shoulders there was no mention of what happens when you squeeze two lanes in to one on the bridges and still maintain a flow rate. Joaquin Vargus answered by stating that all the bridges from Marathon north have shoulders on both sides and there is sufficient room on those bridges to allow for two lanes of evacuating traffic and a southbound lane if the lanes are delineated. There was a discussion regarding the constriction that occurs around the 7-Mile Bridge. Mayor Pete Worthington asked if there had been any consideration of mass transit to the shelter at FIU. Aileen Boucle responded by stating no consideration has been made up to this point, but FDOT can research the feasibility if that's the recommendations of the Work Group. Mayor Worthington asked if the flow rates have been confirmed using traffic counts from actual events. Mr. Vargus confirmed that they were utilized. A question was asked about where the four traffic counters in the Keys were located. Mr. Vargus stated that they were located at Mile Marker 4, Mile Marker 106, one in Marathon and one in Big Pine Key. Aileen concluded the FDOT presentation by stating that the presentation will be posted on the DEO website and the chart with the maximum sustainable flow rates is contained with the presentation.

Bob Shillinger of the Monroe County Attorney's Office gave a presentation on Property Rights and Hurricane Evacuation. He began by covering "takings law" and their foundation in both the US and Florida constitution. He explained that there are different types of takings claims,

- a direct taking which is when the government takes your property for some public purpose, i.e., school, park, etc.
- inverse condemnation – the government's regulation has affect the taking all use of the property
- Bert J. Harris Act which is a variant on the inverse condemnation

He stated that the Supreme Court has defined a taking by, “Where a government agency, by its conduct or activities, has effectively taken private property without a formal exercise of the power of eminent domain . . . .” There are five basic types of inverse condemnation: facial taking, temporary taking, as applied taking, exaction, and physical occupation.

Facial and as applied takings are the two most applicable for hurricane evacuation. A facial taking is generally defined as mere enactment of regulation precludes all development of property and owner is deprived of all reasonable economic use of property and it’s clear from the text of the regulation. The claim would immediately ripen and the claim would run for four years until the statute of limitations is reached. An example of a facial taking would be: no more ROGO units, no other changes.

A temporary taking is when there is a moratorium. There is no bright-line rule for duration. In the Tahoe-Sierra case the Supreme Court held that a 32-month planning moratorium was not a temporary taking. It has to be a complete prohibition on development. If you have other uses of the property, it is not a taking. The statute of limitations starts to run when the moratorium is lifted.

“As applied” takings claims are ones most used in the Keys. An as “applied taking” occurs when the application of a regulation to property denies substantially all reasonable economic use. The claim requires at least one denial of a meaningful building permit application. There are the Penn Central factors which require a reasonable investment backed expectation as well as the economic impact on claimant. The statute of limitations runs from a final denial of that meaningful application.

Economic Impact factor: requires evidence on the change in fair market value (FMV) of the property caused by the regulatory imposition. For example the comparison of

- a) FMV of the property with the complained of regulation as of alleged date of taking and
- b) FMV of the property without the complained of regulation as of same date.

Owner may be denied highest and best use of property. For example, remaining “ROGO lot” value (the value of a lot for donation to increase points in ROGO) of vacant property has precluded finding of takings.

An exaction is a restriction on using private property for public benefit. There are two question to ask to determine whether it’s unconstitutional. 1) Is there an essential nexus between legitimate state interest and permit condition? 2) Is the permit condition proportional to projected impact of the proposed development? In the context of hurricane evacuation, an example of an exaction would be conditioning new ROGOs on purchasing too many additional lots. It would need to be need to be proportional to impact of development.

A physical occupation taking usually occurs during temporary and emergency situations and it is occupation without prior permission. A classic example is flooding of fields to handle storm water. In the context of hurricanes examples include: evacuation or return holding areas, temporary shelters and command posts, post disaster supply depot, debris collection and processing sites.

The typical defense in takings cases include: there is no taking, statute of limitations, and third party liability. A no taking defense is made when it's proven that there are:

- Other economically viable uses
- No reasonable investment backed expectations
- Owner opting not to recoup initial investment in face of increasing regulatory limitations
- Nuisance
- Development expectations not defeated by government regulation

Nuisances are not compensable takings. Nuisances include those uses of property that are threats to public harm and welfare. Is the threat to public safety once there is no ability to safely evacuate the County in event of a hurricane a nuisance? Mr. Shillinger stated he could find no case related to hurricanes. Most cases point to nuisance that are specific to a property.

Statute of Limitations runs four years from the date of accrual. Laches is a similar type of claim to that of the statute of limitation when you talking about equitable claims, but there is no set time limit. A no taking defense is made when it's proven that the claimant has waited too long.

- A ripeness defense is use when it can be proven that there has been:
- No meaningful permit application with governmental entity being sued
- A failure to apply for permits from other governmental entities that could oppose development
- A failure to Exhaust Administrative Remedies, such as the Beneficial Use Determination (BUD Process) or the Administrative Relief process

A third party liability defense demonstrates that there is a superior sovereign responsible, such as state or federal governments. It is also used when a non-governmental agency such as a home owners association prevents the use of the property.

There are potentially two trials in a takings claim. The first phase is the liability phase which determines whether there has been a taking. This is done by means of a bench trial before a Circuit Court Judge and only the landowner has the right to appeal if he loses. The second phase is the damages phase which determines how much is owed. This is determined by a 12 person jury and can be appealed by either side.

A Bert J. Harris Act claims is a statutory remedy adopted in 1995. It applies when a government action “inordinately burdens” an existing use or a vested right to a future use. It excludes temporary takings less than 1 year and enforcement of federal regulations. In these cases there is often an opportunity to settle by modifying regulation. The orders on liability are immediately appealable. The Bert J. Harris Act is modifiable by the legislature and governor.

On the question of build-out, there are approximately 8,800 parcels of privately owned property in the unincorporated area of Monroe County. Under the current rule there are 197 County ROGO allocations per year.  $197 \text{ ROGOs} + \text{number of lots purchased} = \text{number of potential takings cases resolved each year}$ . The trend in land acquisition shows that since 1994, government agencies (federal, state and local) bought 340 parcels per year. In the last 5 years, government agencies bought 156 parcels per year and in the last 3 years government agencies bought 67 parcels per year. At the current rate this leaves 33 years of ROGO. Reducing the ROGO rate alone will not solve the problem. The current rate  $(197 \text{ ROGOs} + 67 \text{ acquired}) \times 5 \text{ years} = 1,320$  this would leave 7,480 lots to purchase. A 50% in the annual allocation reduction leaves 7,140 lots left to purchase and a 25% reduction leaves 6,480 lots to purchase. If you use the strategy of land acquisition – you must have a willing seller. If you apply the current rate of ROGO and 100 purchases a year for 5 years there are 7,315 lots to purchase. Reduce it by 50% and it leaves 6,810 lots to purchase. Reduce it by 25% and it leaves 5,820 lots left to purchase.

In order to get to zero lots at the end of a 5, 10 or 20 year period, you would need to purchase 1563, 781 and 391 lots per year respectively. Some options to consider as we approach a 24 hour evacuation time are to: slow rate of growth, increase purchases, reward land dedications and lot aggregations in the building permit allocation system, allow for the transfer of ROGO rights or encourage other uses that don't impact hurricane evacuation. Takings law is case law driven case law changes over time – what may be a taking today may not be a taking tomorrow.

Commissioner Carruthers asked how many of the 8800 lots are in ROGO and nearing ripeness. Christine Hurley stated that she did not have the figure but that approximately 4,000 parcels are designated Tier III. Mr. Shillinger clarified that Tier III lots are parcels where the County wanted to encourage development. A question from the audience regarding what the cost of land acquisition in the last 3 years. Mr. Shillinger responded by stating that the land authority purchases land at 1986 values. Most lots are purchased at approximately 10,000-20,000. The state makes purchases at fair market value which is far greater than the land authority. Mr. Shillinger clarified that the 8,800 lots and the allocations used in his presentation were just unincorporated Monroe County and included commercial lots. Ms. Jetton pointed out that Marathon just won a takings case (Bamboo Key) and asked about the cost of defending takings cases. Mayor Worthington did not have the figures available for that case but said that they settled the Boot Key Island and it cost \$3 million plus attorney's fees of \$275,000. Mr. Shillinger said that depending on the case they have spent six and sometime seven figures defending a takings claim. A typical expense for defending a takings claim for a single family home/single family lot is around \$50,000 to \$100,000 if you're paying for outside counsel,



property appraisals and if you lose the legal fees for the plaintiff. The question was asked as to why isn't it cheaper just to buy the lot? Mr. Shillinger explained that you have to have a willing seller. Don Craig asked if the transient moratorium had gone long enough to establish that it was a taking. Mr. Shillinger stated that the recent case in which that was alleged, The Good case, could not overcome the fact that the owner still had residential use on the property. The moratorium doesn't prohibit all development – just transient development.

Rebecca Jetton reviewed the memorandum of understanding (MOU). Ms. Jetton directed the participants to page three of the MOU. She then asked those present to participate in a “straw poll” to gauge the positions relative to the variables/terms contained in the MOU. The decisions made must be legally defensible. The first variable to decide on is the participation rate. The occupancy rate of both hotels and site-built residential is another variable. The previous modeling runs have used hotel occupancy of 85%. As a result of these meetings DEO has been asked to update the model using data from Smith Travel regarding actual hotel occupancy. Under assumptions, DEO chose a 12 hour response curve as recommended by the Division of Emergency Management. We will also need to decide whether we will use a Monroe only evacuation run or a regional run that includes Broward and Miami-Dade. We have already adopted into the Florida Administrative Code that the termination point for evacuation is the Turnpike at Florida City rather than the shelter at FIU. Only 3% use the shelter. Another MOU decision is what level of storm are we modeling for – a Category 3, 4 or 5. The road capacity has already been decided by the Florida Department of Transportation. Ms. Jetton reviewed the “straw poll”. Don Craig asked if the Department is saying that Key West is entitled to 90 allocations. Ms. Jetton stated that 90 is what Key West originally had and that Key West is entitled to an allocation which will be decided as part of this process. Don Craig asked if the Smith Travel numbers were during a particular season. Ms. Jetton stated that they were annualized numbers.

John Hammerstrom asked to make a case for public safety before the poll is taken. He began by stating that there are 66,000 dwelling units in the Florida Keys and we're eliminating roughly a third of those by not counting the tourists and the mobile home dwellers, so you're down to 44,000. Another third will be eliminated because they're not occupied. He continued by reading quotes from James Franklin which spoke to the inability of the weather service to predict rapid intensification of storms or storm structure or size (which determines surge). The comprehensive plan policy is based on the ability to predict where and when tropical storm force winds will arrive but we're basing the need to evacuate on storm surge. The 2012 SRESP made 50 different scenarios of those 50, 42 of them exceeded 24 hours. There were no scenarios in the Category 4 or 5 that were under the 24 hours. Four of the scenarios that generated a time of less than 24 hours were for a Category 1 hurricane. The draft MOU chose scenario 8A – the one clearance time that was the least of the 50. Using the best case is statistically invalid, intellectually dishonest and dangerous. The early study made the clear statement that tourist should be included in the evacuation because we will not always have the luxury of 48 hours. Mr.

Hammerstrom's presentation continued by stating that whenever the 24 hour limit has been reached in the past, the rules were changed. He concluded his remarks with stating that if this group doesn't determine that we've reached build-out, no group ever will.

A question was asked how timeshares were handled in the model. Transients are only those that are registered through Department of Business and Professional Regulation (DBPR). The Census Bureau has inventoried approximately 52,000 to 53,000 site-built units. Of the 13,000 to 14,000 identified as transient units by DBPR about half of those may overlap with the units identified vacant dwelling units by the Census Bureau. So simply adding the units may not present an accurate total. Mr. Hammerstrom stated that his point was that for the built units we are discounting a substantial percentage for participation rate, occupancy and earlier evacuation.

Denise Worling who worked as a Census taker spoke briefly about how the Census counts vacancy. She began by stating that the Census count the structure where you are residing as occupied. If you have a seasonal home that may be occupied eleven months out of the year – the Census considers these vacant-occupied occasionally. Unless there is a separate address for a legal or illegal apartment, duplex, etc. those units were counted as a single structure. Homesteading the property has no effect on the Census count. Commissioner Carruthers asked for clarity about how multi-family housing was counted. Ms. Worling responded by stating that if the units within the multi-family had separate addresses then they were counted.

Christine Hurley stated that Monroe County had requested scenarios that included 30% of the vacant units be placed on the transient side of the evacuation phase. Mr. Hammerstrom stated his concern that if we do not issue any new permits but the vacant units become occupied with permanent residents we will be over the 24 hour evacuation time. Jodi Weinoffer stated that the occupancy rates in the summer are quite low and tourists leave well before the 48 hour time-frame.

Barbara Powell announced that the next scheduled meeting may be postponed until the end of April. The model is being updated to reflect the most recent Census data and the scenarios will not be ready by the next scheduled meeting.

The consensus exercise was performed and after a short break the meeting concluded with public comments.

**Hurricane Evacuation Clearance Workshop – Meeting 3**  
**April 30, 2012 Minutes**  
**10am – 6:00pm**

**Welcome and Opening Remarks**

Barbara Powell announced changes to the Agenda and the Work Group approved the previous meeting minutes. Mrs. Powell also announced that the presentation on Sunshine Law will occur later in the meeting.

Commissioner Sylvia Murphy welcomed the group.

**Economic Impact on Early Evacuation**

Andy Newman with the Florida Keys Tourism Development Council (TDC) provided a presentation on the economic impacts of early hurricane evacuation. Mr. Newman provided information on the role of the TDC in emergency preparedness. Mr. Newman presented information regarding the economic impact of hurricane evacuation, stating it cost \$3 million per midweek day and \$8 million per weekend day – more per holiday weekend or special event day. Mr. Newman emphasized that the purpose of the TDC in coordinating hotel evacuation is to protect lives and the Florida Keys' economy. Mr. Newman showed the Work Group and audience the TDC's website and the information it provides on evacuation orders, weather, and frequently asked questions. Mr. Newman stated that it can take anywhere from a few days to 6 weeks to restart tourism when a storm hits the Keys depending on the media coverage. The TDC works with the media to ensure that if an area of the Keys is struck by a hurricane, that there is equal emphasis on the non-impacted areas that are still open for business. Mr. Newman spoke to the proactive approach the TDC takes in ensuring tourists evacuate.

There were questions regarding evacuation via airlines. Mr. Newman stated that the flights are generally full and when flights are cancelled due to the approaching storm, the bus lines are utilized.

**Scenario Presentation**

Barbara Powell with the Department of Economic Opportunity presented the results of several hurricane evacuation scenarios that included requests from the Work Group members. Mrs. Powell began her presentation by describing the data that has been updated in the Transportation Interface for Modeling Evacuations, or TIME Model which is the hurricane evacuation model developed for the State of Florida.

**Assumptions Used in the Scenarios Presented**

**Tourist Units**

- Total Tourist Units: 13,665
- Average Vehicle Per Unit: 1.1

- Average Occupancy Rate Range: \*67.50 – 90.50% (July) \*These ranges are provided for a frame of reference. Each Traffic Evacuation Zone contains the specific occupancy provided by Smith Travel.
- July represents the highest hotel occupancy rates.
- Other months were used with different occupancy rates.

### **Mobile Home Units**

- Total Mobile Home Units: 8,134
- Average Vehicle Per Unit: .62 – 2.0
- Average Occupancy Rate Range: \*2.86 – 100.00%
- Each Traffic Evacuation Zone contains the specific occupancy provided by the 2010 census data.

\*These ranges are provided as a frame of reference only. The number of vehicles owned is derived from the census block information. The percent of vehicles that will be driven during a hurricane evacuation was determined by the Behavioral Surveys utilized in the statewide hurricane studies.

### **Site-Built Units**

- Total Site-Built Units: 44,630
- Average Vehicle Per Unit: .46 – 2.13
- Average Occupancy Rate Range: \*32.23 – 92.61%
- Each Traffic Evacuation Zone contains the specific occupancy provided by the 2010 census data.

\*These ranges are provided as a frame of reference only. The number of vehicles owned is derived from the census block information. The percent of vehicles that will be driven during a hurricane evacuation was determined by the Behavioral Surveys utilized in the statewide hurricane studies.

### **Special Populations**

- Naval Air Station Key West – Boca Chica – 2,025 vehicles
- Florida Keys Community College – Blue Lagoon Residence Hall – 100 vehicles

Mrs. Powell explained that all scenarios produced reflect participation rates (70%, 80%, and 90%) based on a Category 3-5 storm event and Level C-E surge event. The results presented below are based upon Category 5 storm event with 90% participation rate, a 12-hour response curve, 2010 US Census and 2006-2010 American Community Survey data. When additional units are projected, such as Scenario 2 where 3,540 units are being added, that number (3,540) has not been reduced by the occupancy rate and the participation rate.

### **Phase 2 Evacuation Scenarios (Assumes all hotels and mobile homes evacuated in phase 1)**

**Scenario 1:** The evacuation of 28,053 occupied units (of the 44,630 site-built units) had an evacuation clearance time of 23 hours.

**Scenario 2:** The evacuation of 28,053 occupied units (of the existing 44,630 site-built units) with an additional 3,540 units had an evacuation time of 24 hours. This scenario includes a full allocation to each local government for ten years.

**Scenario 3:** The evacuation of 28,053 occupied units (of the existing 44,630 units) with 1,780 additional units had an evacuation clearance time of 23 hours and 30 minutes. This represents a decrease in allocation of 50%.

**Scenario 4:** The evacuation of 28,053 occupied units (of the existing 44,630 site-built units) and an additional 2,660 units had an evacuation clearance time of 23 hours and 30 minutes. This represents a 25% reduction in allocation.

**Scenario 5:** The evacuation of 28,053 occupied units (of the existing 44,630 site-built units) with an additional 3,540 units and the 4,576 occupied mobile home units (of the existing 8,134 mobile home units) had an evacuation clearance time of 27 hours.

Mrs. Powell presented data that indicates over the past 20 years there has been a conversion of mobile home units to site-built units at a rate of 30.6% since 1990. She explained that using a linear projection, staff expects 1,248 mobile home units to convert to site-built units during the next 10 years. Staff suggested that the group monitor this conversion factor as the American Community Survey for Monroe County is released.

**Scenarios 6:** The evacuation of 28,053 occupied units (of the existing 44,630 site-built units) and 3,540 projected units, and a conversion of 1,248 mobile homes to site-built units resulted in a evacuation clearance time of 24 hours and 30 minutes.

**Scenario 7:** The evacuation of the 28,053 occupied units (of the existing 44,630 site-built units), an additional 1,780 units), with a conversion of 1,248 mobile homes to site-built units had an evacuation clearance time of 24 hours.

**Scenario 8:** The evacuation of 28,053 occupied units (of the existing 44,630 site-built units) and an additional 2,660 units, a conversion of 1,248 mobile homes to site-built units had an evacuation clearance time of 24 hours.

**Scenarios 9-13 are on the next page**

**Scenario 14:** The evacuation of 28,053 occupied units (of the existing 44,630 site-built units) plus 1,780 units and the 4,576 occupied mobile home units (of the existing 8,134 mobile homes) had an evacuation clearance time of 26 hours and 30 minutes.

**Scenario 15:** The evacuation of the 28,053 units (of the 44,630 site-built units) plus 2,660 units, and the existing 4,576 occupied mobile homes (of the 8,134 mobile home units) had an evacuation clearance time of 26 hours and 30 minutes.

**Scenario 16:** The evacuation of the 28,053 occupied units (of the existing 44,630 site-built units) plus 11,287 occupied tourist units (of the existing 13,666 tourist units) plus 4,576 occupied

mobile homes (of the existing 8,134 mobile home units), and 2,025 vehicles leaving from Naval Air Station Key West had an evacuation clearance time of 35 hours and 30 minutes.

**Scenario 17:** The evacuation of the 11,287 tourist units (of the existing 13,665 tourist units) and 2,025 vehicles from Naval Air Station Key West had an evacuation clearance time of 14 hours and 30 minutes. It was assumed that mobile home units did not participate in the evacuation.

**Scenario 18:** The evacuation of 28,053 occupied (of the 44,630 site-built) and 4,578 occupied mobile homes (of the 8,134 mobile home units) with an additional 500 units resulted in an evacuation time of 26 hours.

**Scenario 19:** The evacuation of 28,053 occupied units (of the 44,630 site-built) plus 4,578 occupied mobile homes (of the 8,134 mobile home units) with an additional 1,000 units resulted in an evacuation time of 26 hours.

**Scenario 20:** The evacuation of 28,053 occupied (of the 44,630 site-built) and 4,578 occupied mobile homes (of the 8,134 mobile home units) with an additional 1,500 units resulted in an evacuation time of 26 hours.

**Scenario 21:** The evacuation of 28,053 occupied (of the 44,630 site-built) and 4,578 occupied mobile homes (of the 8,134 mobile home units) with an additional 2,000 units resulted in an evacuation time of 26 hours.

**Scenario 22:** The evacuation of 28,053 occupied (of the 44,630 site-built) and 4,578 occupied mobile homes (of the 8,134 mobile home units) with an additional 2,500 units resulted in an evacuation time of 26 hours and 30 minutes.

**Scenario 23:** The evacuation of 28,053 occupied (of the 44,630 site-built) and 4,578 occupied mobile homes (of the 8,134 mobile home units) with an additional 3,000 units resulted in an evacuation time of 27 hours.

**Scenario 24:** The evacuation of 28,053 occupied units (of the 44,630 site-built units) 4,578 occupied mobile home units of the existing 8,134 mobile home units, and an additional 11,282 site-built units resulted in a clearance time of 30 hours and 30 minutes.

**Scenario 25:** The evacuation of 28,053 occupied units (of the existing 44,630 site-built units) and 4,578 occupied mobile homes (of the existing 8,134 mobile home units) had an evacuation clearance time of 25 hours and 30 minutes.

**Phase 1 Evacuation Scenarios (Hotels, vacation rental, military, institutional, special needs)**

When additional units are projected, such as Scenario 9 where 100 additional hotel units are being added, that number (100) has not been reduced by the occupancy rate.

**Scenarios 9:** The evacuation of 11,287 occupied hotel units (of the 13,665 units), plus 100 additional hotel units, plus 4,576 occupied mobile homes (of the 8,134 mobile homes), plus military resulted in an evacuation time of 16 hours and 30 minutes. **July occupancy**

**Scenario 10:** The evacuation of 8,578 occupied hotel units (of the 13,665 units), plus 100 additional hotel units, plus 4,576 occupied mobile homes (of the 8,134 mobile homes), plus military resulted in an evacuation time of 15 hours and 30 minutes. **October Occupancy**

**Scenario 11:** The evacuation of 10,034 occupied hotel units (of the 13,665 units), plus 100 additional hotel units, plus 4,576 occupied mobile homes (of the 8,134 mobile homes), plus military resulted in an evacuation time of 16 hours and 30 minutes. **November occupancy**

**Scenarios 12:** The evacuation of 9,540 occupied hotel units (of the 13,665 hotel units), plus 100 additional hotel units, plus 4,576 occupied mobile homes (of the 8,134 mobile homes), plus military resulted in an evacuation time of 15 hours and 30 minutes. **June –October average occupancy**

**Scenarios 13:** The evacuation of 11,287 occupied hotel units (of the 13,665 units, plus 100 additional hotel units, plus 4,576 occupied mobile homes (of the 8,134 mobile homes), plus military, with an additional 215 hotel units in Key West resulted in an evacuation time of 16 hours and 30 minutes. **July occupancy**

The highest occupancy rate for tourist units, based upon Smith Travel Research's Historic Trend Report, during the hurricane season is the month of July. Comments were received from the public expressing concern about the high occurrence of hurricanes in September and the occupancy of units during the Labor Day weekend. Staff pointed out that, based upon Smith Travel, using monthly averages; the occupancy rate for September is lower than the July monthly average.

### **Regional Evacuation Scenario**

**Scenario 26:** The concurrent evacuations of Miami-Dade, Broward Counties with Monroe with existing 28,063 occupied units (of the 44,630 site-built units), plus 1,780 site-built units (5 year allocation) and conversion of 622 mobile home units to site-built units, as well as the 2015 population for Miami-Dade and Broward Counties had a evacuation clearance time of 24 hours.

Ms. Jeannine Kelsick with the Department of Economic Opportunity presented information on the how the TIME Model uses the US Census and American Community Survey. She described the Florida Keys are broken up into 40 Traffic Evacuation Zones, or TEZs, of which each are comprised of block group data from the US Census and American Community Survey. Ms. Kelsick stressed the point that no one TEZ is the same and that they are different, reflecting the specific characteristics and unit totals inherent in their location.

In regards to the regional evacuation scenario results, Irene Toner, Monroe County's Emergency Management Director, stated that when the National Hurricane Center indicated that if there was a need for a simultaneous evacuation for all three counties that she would contact Miami-Dade and Broward Counties to identify the date and time that they would issue the order and would provide an earlier evacuation order for Monroe County.

There was also discussion regarding the different types of clearance times that can be produced: out-of-county, to-shelter, in-county and regional. Each evacuation scenario conducted provides

results for each of these clearance time types. There was considerable debate regarding whether the Keys should use the out-of-county evacuation time or the regional time. Richard Ogburn, South Florida Regional Planning Council's Director of Research, gave the following definition:

**Regional Clearance Time:** The time necessary to safely evacuate vulnerable residents and visitors to a "point of safety" within the (RPC) region based on a specific hazard, behavioral assumptions and evacuation scenario. Calculated from the point in time when the evacuation order is given to the point in time when the last vehicle assigned an external destination exits the region. Using this definition, the scenarios would consider the evacuation time to include clearing the last evacuating car from Broward County for not just Monroe County but for all evacuating counties in an evacuation scenario.

There was discussion regarding the term "Regional Considerations" and how the term found in the Florida Administrative Code Rules and the Administration Commission's 30-Day Report could be defined. Section 163.3178(9)(a)1., Florida Statutes, provides that a comprehensive plan amendment would be found in compliance with state laws regarding hurricane evacuation based upon the "adopted level of service for **out-of-county** hurricane evacuation". Additionally, Section 163.3178(9)(b), Florida Statutes, provides that evacuation time, if not adopted by July 1, 2008, would be based on an "out-of-county hurricane evacuation". Rebecca Jetton reminded the group that Monroe County has already adopted a 24 hour out of county hurricane evacuation time.

### **Sunshine Law**

Bob Shillinger, Monroe County's Chief Assistant County Attorney, presented on the Sunshine Law and its applicability to the Work Group. He used an example of a recent email exchange amongst Group members. Though the email exchange only provided conflicting views on an issue that was to come before the Group, the reply to the initial email could be considered a violation if both authors were voting members of the group. Mr. Shillinger explained that by revealing the action that had occurred and by providing all members and the public (on the DEO website), with copies of the email, and by having a thorough discussion of the issue by the Group, that had a technical, inadvertent violation of the Sunshine law occurred, it would have been remedied by the cure session

Ron Miller presented hurricane information that he had prepared during the public comment period to the Work Group regarding the height of hurricane season for the Florida Keys.

### **MOU Review**

Rebecca Jetton with the Department of Economic Opportunity presented the draft Memorandum of Understanding (MOU) and took comments from the public regarding each point. Barbara Powell followed by questioning each member to see if they supported the components of the MOU in order to determine the number of points the group could agree upon.

### **Work Group discussion of concerns and how to proceed for MOU**

- **MOU Commencement and Completion**



Rebecca Jetton presented the draft MOU and recommended revisions Part One, Section A as follows:

“For the purposes of hurricane evacuation clearance time modeling purposes, clearance time shall begin when the Monroe County Emergency Manager, in concert with Monroe County Board of County Commissioners, issues the evacuation order for the site built units for phase 2 of the evacuation for a hurricane that is classified as a Category 5 wind event or Category C or above surge event and pursuant to Rules 28-18, 28-19, and 28-20 Florida Administrative Code, the termination point for evacuation is US Highway One and the Florida Turnpike in Homestead/Florida City.”

Comments included suggestions for the following definitions to be included with the MOU for: phased evacuation, hurricane category, clearance time, and storm surge.

No Consensus

- **Tourist Units (Number)**

Comments included citing the source of data for the unit.

Consensus

- **Mobile Home Units (Number)**

Comments included citing the source of data for the units in the MOU and deleting the word “manufactured”.

Consensus

- **Site-built Units (Number)**

Comments included citing the source of data for the units in the MOU.

Consensus

- **12-hour Response Curve**

Consensus

- **Participation Rates for Category 3, 4, and 5 Hurricane Storm Event**

Consensus

- **Mobile Home Units (Occupancy Rates)**

The City of Key West and Village of Islamorada thought the occupancy rates for mobile homes were low as reported by the US Census and American Community Survey.

Consensus

- **Site-built Units (Occupancy Rates)**

Consensus

- **Tourist Units (Occupancy Rates)**

Comments included citing the source of data in the MOU and include occupancy month from the Smith Travel Research date. Citizens urged use of the September occupancy and provided data on hurricane strikes. The work group agreed that July was the highest occupancy for the month for hotels based upon the Smith Travel research. Ron Miller presented data showing that around 46% of hurricanes had occurred in September and it is well understood that high numbers of tourists are in the keys in September. Rebecca Jetton explained that the data set provided by Smith Travel is averaged by the month and not by the week. She explained that staff utilized the highest occupancy rate reported by Smith Travel and that the assumptions and variables in the MOU must be based upon legally defensible data that is the most recent relevant professionally acceptable data available.

**Consensus**

- **Vehicle Usage Rates and Vehicles per Unit (Mobile Home Units)**

Comments included discussion on the average vehicle length used for the vehicles evacuating in the TIME Model. Irene Toner indicated for emergency operations that high-profile vehicles are directed to evacuate during Phase 1 of a hurricane evacuation scenario. Jeff Alexander provided an explanation of how the high profile truck size was accommodated in the model. Christine Hurley wondered if some adjustment is needed to reduce the assumptions for phase 2.

Consensus

- **Vehicle Usage Rates and Vehicles per Unit (Site-built Units)**

Comments included a need to review the TEZ 1220, which is for the Naval Air Station - Key West, to ensure that 870 military units<sup>1</sup> have been removed from Phase 2 calculations because the military will evacuate in Phase 1.

Consensus

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<sup>1</sup> This number has since been revised as of July 13, 2012 to 912 military units, pursuant to further correspondence with Naval Air Station – Key West.

- **Vehicle Usage Rates and Vehicles per Unit (Tourist Units)**

Consensus

- **Highway capacity and lanes**

Comments include adding the number of lanes to exhibit regarding roadway configuration.

Consensus

- **Evacuation stream to be considered**

During the comments, 9 of the 14 Work Group and Special Interest members wanted the regional stream of cars including Broward and Dade modeled. There was discussion regarding the consistency of this approach with the statutes that call for “out of county” evacuation. The group discussed the term “regional considerations” which is used in the Work Program within the adopted administrative codes for Monroe, Marathon, and Islamorada. Mayte Santamaria asked if the committee selected the regional evacuation scenario, if that would require a statutory change. The members requested more information and further explanation of what “regional considerations” means in the Florida Administrative Code.

Representatives from the Village of Islamorada, City of Marathon, Chambers of Commerce and FIRM Citizen Advocacy indicated they wanted only Monroe County’s population modeled. The Navy wanted more time to review before they commented. Consensus was not reached.

- **Phased Evacuation Procedure Policy**

There was discussion regarding “out-of-county clearance time” in the Florida Statutes as well as questions regarding the capacity of shelter space at FIU. FIU has a capacity for 600 individuals with an average use by 370 individuals. FIU has capacity for 90 special needs individuals with an average use by 70 special needs individuals.)

During group discussion, Rebecca Jetton proposed policy amendment as follows:

***Policy 216.1.8***

*In the event of a pending major hurricane (category 3-5) Monroe County shall implement the following staged/phased evacuation procedures to achieve and maintain an overall 24-hour hurricane evacuation clearance time for the resident population.*

*1. Approximately 48 hours in advance of tropical storm winds, a mandatory evacuation of non-residents, visitors, mobile home residents, special needs residents, hospital and nursing home patients, recreational vehicles (RV’s), travel trailers, live-aboard (transient and non-transient), and military personnel from the Keys shall be initiated. State parks and campgrounds should be closed at this*

*time or sooner and entry into the Florida Keys by non-residents should be strictly limited.*

*2. ~~Approximately 36 hours in advance of tropical storm winds, a mandatory evacuation of mobile home residents, special needs residents, and hospital and nursing home patients from the Keys shall be initiated.~~*

*3. Approximately 30 hours in advance of tropical storm winds, a mandatory phased evacuation of site built units ~~permanent residents~~ by evacuation zone (described below) shall be initiated.*

The Work Group could not reach consensus on when to model the evacuation of mobile home occupants. The adopted policy envisions the evacuation of mobile home occupants who live in the most vulnerable dwelling units evacuating 36 hours prior to landfall of hurricane force winds during Phase 1 of the 48-hour phased evacuation. Monroe County maintained that mobile home occupants should be modeled evacuating with the site-built units in the Phase 2 of the evacuation. The mobile home occupants were cited as the work force for the Florida Keys and least able to afford to evacuate.

The staff from the Department of Economic Opportunity encouraged the group to seek funding from the Division of Emergency Management to conduct workshops with the mobile home parks and to develop evacuation plans with each mobile home community; provide a better understanding of evacuation policies and shelter locations, the vulnerability of mobile homes to hurricane storm events, and to coordinate public transportation and assistance in handling pets. Some members questioned the occupancy rates reported by the Census that indicates that out of 8,134 mobile homes, there are 4,576 vacant. The Work Group requested a hurricane scenario where the mobile homes are modeled evacuating with the site-built units and at a different participation rate. The staff from the Department of Economic Opportunity had presented an evacuation scenario that indicated that if site-built units evacuate with mobile home units, the evacuation clearance time is more than 24 hours with no additional allocations for the future. The Work Group requested that scenario calculations runs be based on a regional evacuation stream and not just Monroe County traffic out-of-county. The Work Group could not reach consensus on the phased evacuation policy as currently written with mobile homes modeled leaving in phase one and they couldn't reach consensus on proposed revisions to the policy. Monroe BOCC has already adopted a resolution supporting modeling the mobile homes with site built homes.

No Consensus

Data that may need to be evaluated and changed in TIME Model includes:

1. Special needs permanent population moved to Phase 1;
2. High profile vehicles or vehicles with trailers are required to be evacuated in Phase 1; and
3. Navy vehicles may have been counted in Phases 1 and 2 (870 units<sup>2</sup> and their associated vehicles).

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<sup>2</sup> This number has since been revised as of July 13, 2012 to 912 military units, pursuant to further correspondence with Naval Air Station – Key West.

Comments received from the public indicating there could be thousands of unlawful downstairs enclosures that are being reported by FEMA officials that may have not been counted by the US Census or included in the projected evacuation stream.

The Work Group requested that Naval Air Station - Key West provide a letter indicating that the military will evacuate during Phase 1 and provide the data sources for the number of vehicles and units they have identified in an earlier presentation.

The Work Group requested a scenario that models the ten foot shoulder enhancement along the entire length of US 1 with the exception of Key Largo.

There was insufficient time for Christine Hurley and John Hammerstrom to make presentations. The Work Group requested an additional meeting to conclude their recommendations. Any presentations or other issues from this workshop will go on the next meeting's agenda.

## **Hurricane Evacuation Clearance Workshop June 8, 2012 Minutes**

### **Welcome and Opening Remarks**

Barbara Powell from the Department of Economic Opportunity brought the meeting to order and introduced Mayor Peter Worthington of the City of Marathon to welcome the group.

Mrs. Powell proposed changes to the Agenda to allow Work Group member Annalise Mannix to speak since she was unable to stay the duration of the meeting. Other announcements included the intent to post an email on the Department of Economic Opportunity's Florida Keys Hurricane Evacuation website to cure a potential Sunshine Law violation that occurred when Ms. Mannix sent an email to the Monroe County Board of County Commissioners and copied Work Group member Commissioner Sylvia Murphy. The email from Ms. Mannix expressed her concerns regarding: 1) traffic flow rates, 2) vehicle usage rates and 3) behavioral studies.

Mrs. Powell noted that Bob Shillinger, Assistant County Attorney for Monroe County, had previously requested, via email, changes to the April 30<sup>th</sup> minutes regarding his presentation on a Sunshine violation. Mrs. Powell asked if there were any other corrections to the April 30<sup>th</sup> meeting minutes before approval. Mr. Hammerstrom requested that the minutes reflect the economic impact of hurricane evacuation (\$3 Million impact during a week day and \$8 Million on a weekend).

### **Annalise Mannix Presentation**

Ms. Mannix stated that the traffic flow rates utilized in the hurricane evacuation model for the Florida Keys were too low. Ms. Mannix indicated that the population may start evacuating days in advance of a hurricane storm event. Regarding the behavioral studies, Ms. Mannix had issue with how residents in Mobile Homes and Recreational Vehicles were surveyed. She also stated that assuming people won't drive at night was incorrect.

Ms. Mannix indicated that further research should be done to make sure double-counting does not occur. Ms. Mannix was not convinced that new construction equates to new permanent residents since more homes are being used as second homes and vacation rentals. She also felt that the 10 ft. shoulders should be counted in the model as a functional evacuation lane and recommended a contra-flow plan on the 18-mile stretch.

### **John Hammerstrom Presentation**

John Hammerstrom's slide presentation provided an overview of the assumptions that are part of the Memorandum of Understanding (MOU), reinforced that the task of the Work Group was to choose reasonable input parameters and to compare the resulting clearance time to the statutory limit of 24 hours, and he expressed his apprehension that the group would instead "...start with a clearance time of 24 hours or less and then define the inputs and assumptions to achieve that time."

Mr. Hammerstrom quoted Jonathan Rizzo, Warning Coordination Meteorologist at the National Weather Service, Key West, "The science of weather forecasting, including track, intensification, wind field and storm surge does not support the assumption that Monroe County will always have 48 hours in which to carry out a phased evacuation," James Franklin, Branch Chief of the National Hurricane Center, Hurricane Specialist Unit, "While Average Track Errors for Atlantic hurricanes have been cut in half over the past 15 years, there has been virtually no change in average intensity forecast errors over that period. Rapid intensification is particularly difficult to forecast. Accurate forecasts of storm surge 48 hours in advance are complicated by a lack of ability to forecast changes in storm structure and size, where almost no forecast skill exists. The structure or distribution of a storm's wind field is one of several critical factors in determining the amount of surge that a particular location will experience," and Andrew Devanas, Science and Operations Officer of the National Weather Service, Key West, "Hurricanes Wilma, Rita, Ivan and Dennis all intensified from tropical storm to evacuation-inducing Category 3+ strength in less than 24 hours - and none of those intensifications were forecast."

It was Mr. Hammerstrom's opinion that mobile home residents and tourists should be modeled as evacuating with the site-built units because "...forecasting tools are inadequate to reliably evacuate tourists 48 hours ahead. History tells us that sometimes 24 hours is insufficient." Mr. Hammerstrom discussed the 20,135 dwelling units the US Census considered vacant and the fact that none are included in the MOU clearance time calculation. He referred to the census statement that 75% of the vacant units are occupied "seasonally, recreationally or occasionally" and it was his opinion that "...many 'vacant' dwelling units will generate evacuation traffic because they are second homes in need of hurricane preparation by mainland owners, or simply because they are occupied as 'seasonal, recreational or occasional' units."

Mr. Hammerstrom stated that the proposed MOU accounts for only 38% of the County's total dwelling units since the Work Group's proposed input parameters excludes all 20,135 dwelling units considered "vacant" and all tourist units and mobile homes based on the presumption that there will be 48 hours in which to execute a two-phased evacuation.

Mr. Hammerstrom suggested that the draft MOU should include Tourist and Mobile Home residents in the clearance time calculation and should include 25% of those units considered vacant by the US Census. Since it was required by Florida Administrative Code to include "regional considerations", he asserted that the clearance time for Monroe County should therefore include the influences of neighboring counties. Mr. Hammerstrom presented his recommendations for a revised MOU that he had drafted. The members of the Work Group did not make a motion to accept his recommendations.

### **Mayte Santamaria Presentation**

Mayte Santamaria, Assistant Planning Director for Monroe County, gave a presentation based on alternative strategies to mitigate for hurricane evacuation impacts in the Florida Keys. Some of the potential strategies are as follows:

- Revision to the rate and distribution of building allocations
  - Distribution based on vacant land analysis within jurisdictions
  - Decrease annual allocation rate to allow for the ability to buy more land and allow for long term land acquisition

- Roadway Improvements
  - Acknowledge these type of projects are costly and controversial
    - Additional lanes may conflict with community character and are prohibited by Monroe County Comprehensive Plan policies in areas with 4 lane highways in the Upper Keys
- Adopt comprehensive plan policies which would allow for the transfer of building allocations across Monroe County sub-areas and across other local governments' jurisdictional lines
  - Would help with limited allocations
  - May negatively impact affordable housing deficit in the Florida Keys
- Re-designate vacant platted lots near US 1 as strictly non-residential land uses (such as commercial/office, etc.)
- Request federal government designate all eligible vacant lots within the Keys as Coastal Barrier Resource Units (CBRS)
  - Provide limitations on obtaining federal funds or subsidies for future development

Ms. Santamaria stated that there could be an evaluation to the current 24-hour clearance time to see whether it is still appropriate for the Florida Keys since forecasting ability has improved since it was adopted into the Florida Statutes and local law. She also recommended the reconsideration of the current phased policy adopted by the local governments to see if the policy is still relevant for the Keys and whether revision is necessary.

Monroe County has 8,758 privately-owned, vacant lots and the local governments should consider mechanisms to accelerate and fund land acquisition while balancing the private property rights and fairness for future development. Ms. Santamaria indicated there may be long-term maintenance issues. A solution would include locating additional funding sources for the County's Land Authority.

Other mitigation strategies included research and construction of hurricane shelters within Monroe County located outside the Coastal High Hazard Area (CHHA). Funding for shelter development could come from fees from future development in the Keys. Ms. Santamaria presented maps of potential locations outside of Tier I and the CHHA.

### **Scenario Discussion - Barbara Powell and Jeannine Kelsick**

#### **Scenarios M3, M4, M5 and M11**

**Scenario M3:** This scenario assumes 44,630 existing site-built units, projected allocation of 3,540 and 1,248 mobiles homes to convert to site-built units over the 10-year period. The scenario provided an evacuation clearance time of 24 hours and 30 minutes.

**Scenario M4:** This scenario assumes 43,760 existing site-built units, projected allocation of 3,540 and 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario differs from Scenario M3 by removing 870 units which were double counted (military housing). Mrs. Powell indicated that the scenario shows the location bias of units located within



the Key West region and how the location of 870 units<sup>1</sup> at the beginning of the evacuation stream affects clearance time by 30 minutes. This scenario provided an evacuation clearance time of 24 hours.

**Scenario M5:** This scenario assumes 43,760 existing site-built units, projected allocation of 3,540 units and 1,248 mobiles homes to convert to site-built units over the 10-year period, and coning north of Jewfish Creek Bridge. This scenario provided an evacuation clearance time of 24 hours.

**Scenario M11:** This scenario assumes 43,760 existing site-built units, projected allocation of 3,190 with only 30 new units located at Key West and 1,248 mobiles homes to allocation over the next 10 years. This scenario produced an evacuation time of 23 hours.

### **Scenarios M6-M13**

**Scenario M6:** This scenario assumes 44,630 existing site-built units, projected allocation of 1,770 units (a 50% decrease in the current allocation), and an estimate of 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario provided an evacuation clearance time of 24 hours.

#### **Scenario M7:**

This scenario assumes 43,760 existing site-built units, a projection of 1,770 units (a 50% decrease in allocation) 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario differs from Scenario M6 by removing the double count of military housing units associated with Naval Air Station Key West. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

**Scenario M8:** This scenario assumes 44,630 existing site-built units, a projection of 2,660 (a 25% decrease in allocation), and an estimate of 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario provided an evacuation clearance time of 24 hours.

**Scenario M9:** This scenario assumes 43,760 existing site-built, 2,660 projected units (a 25% decrease in the current allocation) and an estimate of 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario differs from Scenario M8 by removing the double count of military housing units associated with Naval Air Station Key West. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

**Scenario M10:** This scenario assumes 43,760 existing site-built, 3,009 projected units (15% decrease in the current allocation), 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario also assumes the removal of the military housing double count associated with Naval Air Station Key West. This scenario provided an evacuation clearance time of 24 hours.

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<sup>1</sup> This number has since been revised as of July 13, 2012 to 912 military units, pursuant to further correspondence with Naval Air Station – Key West.

**Scenario M12:** This scenario assumes 44,630 existing site-built units, a projected allocation of 3,540 and 1,248 mobile homes to convert to site-built units over the 10-year period, and including one additional functional lane (i.e. 10-foot shoulder) from Key West to MM 106.3, the junction of Card Sound Road and US 1. There are portions of US 1 that already have 2 functional evacuation lanes. This scenario assumes the addition of a 10-foot shoulder to be used as a functional evacuation lane in areas with only one functional evacuation lane, with coning on bridges. This scenario produced an evacuation time of 23 hours and 30 minutes.

**Scenario M13:** This scenario assumes 44,630 existing site-built units, a projected allocation of 3,540 and 1,248 mobile homes to convert to site-built units over the 10-year period, and the 10 foot shoulder enhancements planned in the Florida Department of Transportation Work Plan projected through 2016 with coning on bridges adjacent to shoulder improvements. This scenario produced an evacuation time of 23 hours and 30 minutes.

## **Scenarios 1, S1 through S4 and M1 through M2**

**Scenario 1:** This scenario assumes a simultaneous evacuation of site-built units, mobile homes, tourist units, and military. This scenario provided an evacuation clearance time of 35 hours and 30 minutes.

**Scenario S1:** This scenario assumes 44,630 existing site-built units. This scenario provided an evacuation clearance time of 23 hours.

**Scenario S2:** This scenario assumes 44,630 existing site-built units and 3,540 projected units for 10 years. This scenario provided an evacuation clearance time of 24 hours.

**Scenario S3:** This scenario assumes 44,630 existing site-built units and 1,770 projected units (a 50% decrease in current allocations) for 10 years. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

**Scenario S4:** This scenario assumes 44,630 existing site-built units, a projected allocation of 2,660 units (a 25% decrease in current allocation) for 10 years. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

**Scenario M1:** This scenario assumes 44,630 existing site-built units and 8,134 mobile homes evacuate at the same time. This scenario provided an evacuation clearance time of 25 hours and 30 minutes.

**Scenario M2:** This scenario assumes 44,630 existing site-built units and 8,134 mobile homes evacuate at the same time with a projection of 3,540 units for 10 years. This scenario provided an evacuation clearance time of 27 hours. Mrs. Powell pointed out that if the local governments of the Florida Keys do not order mobile homes to evacuate early as a mitigation strategy that the Keys is over their statutorily defined 24-hour clearance time limit. From this point, Mrs. Powell started the discussion regarding mitigation strategies for the Florida Keys.

## **Mitigation Recommendations – Barbara Powell**

Before discussion began, John Hammerstrom had a question regarding the coning of 2 functional lanes north of Jewfish Creek Bridge which was used in some of the hurricane scenario evacuation analyses. Mrs. Powell and Lou Caputo, Chief of the Law Enforcement Bureau for the Monroe County Sheriff's Department, explained the scenario represented a worse case-operational scenario.

Rebecca Jetton from the Department of Economic Opportunity encouraged the Work Group to focus on the hurricane evacuation scenarios that were presented and to start a dialog on which scenario the Work Group members would agree on for the purposes of the MOU. Barbara Powell explained that the vote would be taken from signatories of the MOU only, which consists of the representatives for the six (6) local governments within the Florida Keys, the Department of Economic Opportunity and the Florida Division of Emergency Management. Additionally, Mrs. Powell indicated that the members appointed to represent the cross sections of the

population would have a chance to speak in the afternoon before the final recommendations are agreed upon by the signatories.

Rebecca Jetton stated that the recommendations made by the Work Group are advisory to each local government and the elected officials will consider each issue when they conduct public hearings to execute the MOU. Ms. Jetton recommended that each representative indicate which hurricane evacuation scenarios the signatories would support. Daniel Samess, President of the Florida Keys Federation of Chambers of Commerce, suggested that discussion should focus on those scenarios which are 24 hours or below and allows for the greatest allocation feasible to sustain services and the economy as well as proper growth management.

Mayor Pete Worthington recommended including coning of Jewfish Creek Bridge and an additional functional lane on Card Sound Road. Chief Caputo indicated issues with Card Sound Road and Richard Ogburn, Director of Research at the South Florida Regional Planning Council, stated that the bottlenecks for evacuation are not north, but towards the Lower and Middle Keys such as at Snake Creek Bridge.

Mayor Worthington made a motion to discuss and vote on using the existing roadway network on Card Sound Road to make two northbound lanes during a hurricane evacuation scenario. Irene Toner, Emergency Management Director for Monroe County, and Chief Caputo indicated that Card Sound Road has been studied and that Card Sound Road is too narrow to add an additional functional lane for use in a hurricane evacuation scenario. There are public safety considerations due to accidents that have occurred during previous evacuations. Additionally, at Florida City, there are 3 lanes, not 4, exiting out of the Florida Keys which would make merging difficult if both Card Sound Road and US 1 had 2 functional lanes each. This would cause a significant bottleneck without getting a 4<sup>th</sup> lane in Florida City. The motion failed.

Commissioner Sylvia Murphy commented that the Work Group should consider decreasing allocations per year, not overall, by extending the planning horizon past 10 years.

Councilman Clark Snow, City of Layton, discussed Scenario M5. Mayor Pete Worthington mentions looking at Scenario M11 which is the full allocation but provides Key West with 30 allocations, not 90. Don Craig, Planning Director for the City of Key West, provided that the City has 84 vacant, buildable lots, but also has an affordable housing deficit. Mr. Craig pointed out that, with the mixed-use zoning in place, that Key West could issue 90 allocations per year and didn't believe that 30 annual allocations would be enough.

Commissioner Murphy and Commissioner Teri Johnston, City of Key West, recommended moving allocations across jurisdictions and sub-areas. Commissioner Murphy discussed Scenario M10, stating that the need for units is usually not where the allocations are located. Christine Hurley, Planning Director for Monroe County, indicated that the reluctance to support an allocation for 90 allocations in Key West may be based upon the fact that Key West hasn't had any allocations for the past 10 years. Ms. Hurley suggested that Key West provide the Work Group with their housing needs in order to revise the assumptions needed for hurricane evacuation modeling. Mr. Craig indicated that Key West needs 250 allocations for affordable housing as well as for their vacant lots. Mr. Craig indicated that Key West would need time to do a proper analysis for their housing need and cannot provide a number at the moment.

Mayor Ron Sutton, City of Key Colony Beach, motioned to end discussion and to call for a vote for Scenario M5. The motion failed.

Commissioner Murphy motioned for discussion and vote on Scenario M10, seconded by Councilman Snow. Councilman Don Achenberg, the Village of Islamorada, stated that the Village will not sign a MOU with a decrease in allocation for Islamorada. The motion failed.

Councilman Achenberg motioned to discuss and vote for Scenario M11, which is seconded by Mayor Worthington with an amendment to be accommodating to Key West's affordable housing issue. Commissioner Johnston stated that Key West would not support Scenario M11. The motion for Scenario M11 fails.

Commissioner Johnston suggested an amendment to Scenario M11 which would allow Key West staff the opportunity to identify the City's housing need and if Key West uses less than their projected need, that they will distribute their unused allocations to the rest of the jurisdictions by regulatory means. The presumed yearly need would be between 30-90 units. Ms. Jetton indicated a need for discussion regarding the equivalency rate that Key West has adopted which may nearly double the allocations for Key West. She stated that the equivalency rate is based on data from 1990 and likely cannot be supported by current demographic and hurricane data. Mr. Craig clarified that the location where the City needs affordable housing allocations does not qualify for the criteria set up for the .55 equivalency rate and Key West has used full allocations for affordable housing unit in some locations. (**Note:** Research indicates there are 7 zoning districts where equivalency ratios are allowed and 9 districts where the equivalency cannot be used).

Councilman Achenberg indicated agreement with Scenario M11 with the new amendment and motions to discuss and vote, but the new amendment fails. Ms. Jetton indicated a reluctance to support the Scenario vote because it did not identify an allocation for Key West. The City's location at the beginning of the evacuation stream and additional development at this location could have a positive or negative impact on evacuation clearance time. A re-vote is suggested for Scenario M5 to resolve this issue. Commissioners Johnston, Murphy, and Councilman Achenberg suggested that such a vote may not allow the transfer of unused units. Ms. Jetton explained the amendment to Scenario M11 is independent of the other scenarios, since allowing the transfer of units can only occur with amendment to the local governments' land development regulations. Mr. Craig indicated that Key West staff will create a building permit allocation system similar to the other local governments in the Florida Keys to ensure that all the allocations are not used up before the planning horizon ends. Mr. Craig also indicated that Key West will negotiate with the other local governments regarding the transfer of units. Mayor Sutton indicated a motion should be made to Scenario M5 with the amendment from Scenario M11.

Mayor Sutton made a motion to rescind the vote for Scenario M11 and the motion passed. After input from Ms. Santamaria and Edward Koconis regarding timing of annual unused allocations and vacant land analysis, Ms. Jetton then made a motion for an amendment that unused allocations from Key West, annually by July 15<sup>th</sup>, would be transferred to the other local

governments based on the vacant land analysis which is a comparison of each local governments' vacant land percentage to the whole of all the vacant lands in the Florida Keys.

George Garrett, Planning Director for the City of Marathon, indicated that the previous allocation building caps were set up disproportionately and the amendment being crafted for the vote is a potential way of solving the issue. Scenario M5 with the amendment passed.

Commissioner Murphy inquired if the hurricane evacuation modeling scenarios were done assuming bridges were locked down and stoplights are flashing (no set red lights). Jeff Alexander, Director of Emergency Preparedness for Northeast Florida Regional Council, indicated that Commissioner Murphy was technically correct since the TIME Model assumes that traffic uses maximum flow rates. Mr. Hammerstrom and Mr. Ogburn brought up that maximum flow rates were adjusted dependent on factors such as lights and intersections.

### **Discussion of MOU – Rebecca Jetton**

Mrs. Powell reconvened the Work Group to start discussion on the MOU. Discussion for the MOU would be focused on those items that the Work Group was unable to reach consensus on during the April 30<sup>th</sup> meeting.

Ms. Jetton began with Part One, Section A of the MOU, which is the “Commencement and Completion of Evaluation” language. There were a number of recommendations to include definitions for the terms within the clause, so the glossary from the Statewide Regional Evacuation Study Program (SRESP) was included. Ms. Jetton recommended the following changes that are identified:

**“Commencement and Completion of Evacuation:** For the purposes of hurricane evacuation clearance time modeling purposes, clearance time shall begin when the Monroe County Emergency Management Coordinator, as delegated by the Monroe County Board of County Commissioners, issues the evacuation order for ~~site-built units~~ permanent residents under Phase 2 for the evacuation for a ~~hurricane that is classified as a~~ Category 3, 4, or 5 hurricane wind event or Category C-E hurricane surge event and pursuant to Rules 28-18, 28-19 and 28-20, Florida Administrative Code, the termination point for evacuation is U.S. Highway One and the Florida Turnpike in Homestead/Florida City.”

Discussion for this clause included whether there was a definition for permanent residents in the clause since this was an important issue from the last meeting as stated by Commissioner Murphy. Ms. Jetton indicated there was no such definition, but it can be included. An issue was raised that Monroe County may have already adopted a resolution to order both site-built units and mobile homes to evacuate together with an earlier notification period than that in the adopted policy.

Ms. Jetton stated that, previously, when the Monroe County Comprehensive Plan was found “not in compliance” in the 1990s, the Final Order instituted the 24 hour time frame for evacuation for the Florida Keys. At that time, it was thought that the evacuation clearance time was over 30

hours. In 1999, Miller Consulting, Inc. found that the evacuation clearance time was 25 hours and 52 minutes. Following that assessment, mitigation strategies such as the phased evacuation approach which included mobile homes leaving earlier than site-built units was adopted to balance development and public safety. All the local governments have adopted the phased evacuation approach. The phased evacuation does not imply that mobile home residents are not permanent residents, but that mobile homes are more vulnerable to potential wind damage. Mayor Worthington agreed. Jeff Alexander further indicated that the term “permanent residents”, for the purposes of the SRESP, was to identify those residents who reside in permanent residential structures, not mobile residential structures such as mobile homes and other related structures. This is important to take note in the Florida Keys, in which mobile home residents are more than likely to evacuate than those in permanent structures in Category 1 and 2 hurricane storm events and have to differentiate the different population types for phased evacuation. It did not have any bearing on defining a population. Ms. Jetton recommended changing “permanent residents” to “site-built units” in the commencement clause.

Ms. Jetton stated that if Monroe County would like to change the phasing time of site-built units and mobile homes, then that would require a comprehensive plan change and would affect the MOU and all the other local governments because hurricane evacuation ties all the communities together.

Ms. Jetton indicated that the clause being discussed could possibly be removed since it was placed into the MOU for clarity. The Work Group decided to remove the language and place it as an exhibit to the MOU.

Christine Hurley indicated that Monroe County has taken up this issue on the phased evacuation and requested that DEO staff conduct another scenario run to understand the results of ordering site-built units and mobile homes to leave at the 36 hour point. (**Note:** Research indicates that Scenario M1 includes an evacuation of mobile homes and site built units together with a clearance time of 25 hours and 30 minutes. Since the transient and military evacuation stream would have started at the 48 hour point (12 hours earlier) there would still be some evacuating traffic impacting mobile homes and site built units leaving at the 36 hour mark. The model is not structured to accommodate a scenario such as this because the model does not take into consideration the time of an evacuating order without further modification to the software to understand traffic volumes generated by the model. Such a modification has been requested by DEO for the model. Scenario 1 includes hotels, mobiles, and site built units and the clearance time is 35 hours and 30 minutes. The evacuation time for the mobiles and site built units leaving at the 36 hour interval would result in a clearance time between 25 hours and 30 minutes and 35 hours and 30 minutes, both exceed the 24 hour target.)

Ms. Jetton discussed Vehicle Usage assumptions in the MOU and added additional references including the community college contribution to the evacuation stream. Ms. Jetton indicated that the data in the MOU had been revised by attaching the specific data from each Traffic Evacuation Zone, including roadway capacities and number of lanes based upon data from the Florida Department of Transportation.

Mr. Hammerstrom pointed out that the glossary from the SRESP contains the definition for “Out-of-County” clearance time and that is different from what is being identified for the Florida Keys. Ms. Jetton pointed out that the definition from Section 163.3178(9), Florida Statutes, is the definition that should be used for the hurricane evacuation modeling.

Ms. Jetton discussed the traffic evacuation stream and if the model should utilize Monroe County traffic or a regional evacuation. Mayor Worthington, Councilman Snow and Commissioner Johnston agree that “Out-of-County” for Monroe County should only be used since the County cannot control development in other areas. Mr. Hammerstrom asked Jeff Alexander to explain the definition of clearance time.

Mr. Alexander described:

- Clearance time to Shelter: All in County trips have reached their destination within the County. This does not mean all traffic movement in the County has ended; rather it means that everyone going to a point of safety **AND** that point is in the County, has reached their shelter.
- In-County Clearance Time: All in County trips have reached their destination **AND** all out of county trips have left the Evacuation Zone; **AND** traffic originating from outside the County that pass through the Evacuation Zone has also cleared the Zone. This does not mean all traffic movement in the County has ended; rather it means that everyone going to a point of safety **AND** that point is in the County, has reached their shelter **AND** the Evacuation Zone is clear.
- Out-of-County Clearance Time: All in County trips have reached their destination **AND** all out of county trips have left the County; **AND** traffic originating from outside the County that passes through the County has also cleared the County. This does not mean all traffic movement in the County has ended; rather it means that everyone going to a point of safety has reached their shelter or left the County.
- Regional Clearance time is the highest time for an Out of County clearance time in the designated region. Monroe County is part of a region, so it would be the time it takes for the last car to leave the region which is when the last car leaves through Broward County.

Discussion continued on whether modeling efforts should include only Monroe County traffic or include traffic for the entire region. Discussion began with past hurricane storm events which included multiple counties conducting evacuations. Irene Toner provided an example of Hurricane Ike. Ms. Toner stated that Monroe, Miami-Dade and Broward were planning evacuations, so the choice was made to evacuate Monroe County earlier than the other two though the other counties ultimately decided not to evacuate because of changes in storm conditions. The signatories choose to keep modeling only for Monroe County traffic.

Ms. Jetton moved to the phased evacuation policy under Section H of which no changes were recommended. Edward Koconis discussed the participation rates (100%) used for mobile homes. Jeannine Kelsick explained that the model was modified to use site-built unit characteristics instead of mobile home characteristics. Richard Ogburn stated there isn't a significant difference



between the number of vehicles generated by site built or mobile homes. The difference comes with the occupancy rates. Mr. Koconis indicated the MOU should be revised to only list the participation rates being used for hurricane evacuation modeling purposes for the Keys and that those rates can be up for further study.

Returning to discussion regarding the adopted phased evacuation policy, Andrew Sussman from the Florida Division of Emergency Management suggested that the policy in the MOU be removed. He suggested adding a statement under Section H that references the evacuation procedures as adopted by the local governments' comprehensive plan so the MOU does not have to be revised when a local government revises their comprehensive plan.

Ashley Monnier from Naval Air Station Key West provided comments regarding the military's past procedures for evacuation. Ms. Monnier indicates that further coordination would be needed with the chain of command. Mr. Sussman stated that emergency operation procedures are separate from growth management policy decisions. Christine Hurley supported Mr. Sussman's recommendation on referencing an exhibit that would contain the phased evacuation procedure from the comprehensive plan policy. The signatories agreed on the revision.

### **Work Group Comment**

Mrs. Powell requested comments from the Work Group members who are not signatories of the MOU. John Hammerstrom restated his assertion that modeling assumptions may not include enough dwelling units for evacuation purposes. None of the other members had comments.

### **Public Comment**

Naja Girard from Last Stand commented that she cannot support the assumptions used for hurricane evacuation modeling. Ms. Girard is happy about discussions about mitigation strategies such as sheltering.

Ron Miller from Key Largo commented that allocations should be phased out for areas without takings liability and the allocations should be maintained at the same level for those areas with takings liability. Mr. Miller indicated that Monroe County has comprehensive plan language which prohibits the movement of allocations across sub-areas of the County to control potential bottlenecks that may occur during hurricane evacuation. Mr. Miller referenced a study for Monroe County to look at entitled Monroe County 2010-2030 Population Projections which was accepted by the Department of Community Affairs in 2011.

### **Final Recommendations for MOU**

Mrs. Powell turned the conversation back to the signatories of the Work Group for final recommendations. After hearing additional comments from the public and other Work Group members, Mrs. Powell asked if the signatories had any other changes they would like to see reflected in the MOU. No changes were announced. The motion passed. Mrs. Powell indicated that this MOU is for the assumptions and inputs for hurricane evacuation modeling and that the attorneys from all the local governments, Department of Economic Opportunity and the Florida Division of Emergency Management will review the MOU. Christine Hurley indicated that the

MOU should include language to reflect the amendment to Scenario M5 decided this morning, of which the signatories of the MOU agree.

Ms. Jetton asked if there were any other recommendations from the Work Group for mitigation strategies. Mayor Pete Worthington stated that more information is needed regarding day and night evacuations, coning for Card Sound Road and Jewfish Creek Bridges and identifying bottlenecks and other roadway issues. Mayor Worthington recommended more emphasis on evacuating vulnerable populations in RVs, boats and mobile homes early enough. Ms. Jetton recommended additional discussion with DEM regarding preparedness education funding. Commissioner Johnston recommended use of public transportation to help with evacuations, especially for those worried about evacuating at night. Mr. Craig suggested that sheltering in-place should be looked at for the Florida Keys.

The Work Group members were thanked for their participation and the meeting was adjourned.

**APPENDIX F**

SAVE OUR EVERGLADES TRUST FUND . . . . . 4,800,000

Funds provided in Specific Appropriation 1592A are for Fiscal Year 2012-2013 debt service on new bonds authorized pursuant to section 215.619 (1)(a)2., Florida Statutes, to be issued in an amount not exceeding \$50,000,000 for the purpose of financing the cost of constructing sewage collection, treatment, and disposal facilities included in the Florida Keys Area of Critical State Concern protection program. Funds provided in Specific Appropriation 1592A may be used to pay debt service and other payments on the new bonds or on any parity bonds, including any other continuing payments necessary or incidental to the repayment of the bonds, such as remarketing agent fees, tender agent fees, liquidity facility provider fees and similar fees and expenses. If the debt service varies as a result of a change in the interest rate, timing of issuance, or other circumstances, there is hereby appropriated from the Save Our Everglades Trust Fund an amount sufficient to pay such debt service. Proceeds of the bonds issued pursuant to this appropriation shall be distributed 60 percent to Monroe County and 40 percent to the Village of Islamorada for the purposes described herein. If by September 1, 2012, the Village of Islamorada has not executed a contract for the construction of sewage collection, treatment or disposal facilities, the 40 percent allocation shall be distributed pursuant to interlocal agreement among the Village of Islamorada, Monroe County, Key Largo Wastewater District, and the City of Marathon. If by March 1, 2013, Monroe County has not executed a contract for the construction of sewage collection, treatment or disposal facilities, the 60 percent allocation shall be distributed pursuant to interlocal agreement among the Village of Islamorada, Monroe County, Key Largo Wastewater District, and the City of Marathon. A local government requesting disbursement of bond proceeds pursuant to this appropriation shall provide the Department of Environmental Protection with such documentation as the department deems necessary to conform to bonding requirements and to verify that the costs are properly incurred and work has been performed.

## APPENDIX G

### Status of connections for Equivalent Dwelling Units

Project	Occupied EDUs	Connected EDUs	Percentage Complete
Islamorada - North Plantation Key	1,394	976	70%
Islamorada – Middle Plantation Key	1,045		0%
Islamorada – South Plantation Key	1,034		0%
Islamorada – Windley Key	508		0%
Islamorada – Upper Matecumbe Key	2,413		0%
Islamorada – Upper Matecumbe Key	1,288		0%
Marathon Service Areas 1	118	13	11%
Marathon Service Area 2	0	0	
Marathon Service Area 3	2,501	642	26%
Marathon Service Area 4	2,609	1907	73%
Marathon Service Area 5	2,301	1,069	46%
Marathon Service Area 6	928	918	99%
Marathon Service Area 7	1,210	60	5%
Bay Point	431	407	94%
Conch Key	150	144	96%
Duck Key	393	81	21%
Hawk's Cay	909	909	100%
Big Coppitt	1,723	1,370	80%
Stock Island Vacuum/ Stock Island Gravity	2,750	2,616	95%
Cudjoe - Inner	3,223	0	0%
Cudjoe - Outer	5,540	0	0%
Key Largo Facility- Basin A	793	574	72%
Key Largo Facility - Basin B	770	538	70%
Key Largo Facility - Basin C	1053	755	72%
Key Largo Facility - Basin D	689	417	61%
Key Largo Facility - Basin E	1174	1048	89%
Key Largo Facility - Basin F	1006	652	65%
Key Largo Facility - Basin G	531	294	55%
Key Largo Facility - Basin H	246	20	8%
Key Largo Facility - Basin I	684	515	75%
Key Largo Facility - Basins J and K	1839	675	37%
Key Largo Facility – Commercial	6501	6037	93%
Key Largo Facility – Grinder Pumps**	247	0	0%
<b>Islamorada</b>	<b>7,682</b>	<b>976</b>	<b>13%</b>
<b>Marathon</b>	<b>9,667</b>	<b>4,609</b>	<b>48%</b>
<b>Monroe</b>	<b>30,652</b>	<b>17,052</b>	<b>56%</b>

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		Status	State Land Planning Agency Comments	Islamorada Comments	Department of Environmental Protection Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-19.310, F.A.C.</b>	<b>Achieved/Not Achieved</b>					
1	<b>(5)(a) Carrying Capacity Study Implementation.</b>						
2	1. By July 1, 2011 and each July 1 thereafter, Islamorada shall evaluate its land acquisition needs and state and federal funding opportunities and apply to at least one state or federal land acquisition grant program.	Achieved	The purpose of this task is acquisition of environmentally sensitive land or reduction of exposure for takings.	On June 28, 2012, Islamorada submitted proposal to USACOE to include land acquisition in its Agreement. Transmitted confirmation to DEO July 2, 2012. Areas would include lands for pump stations on Lower Matecumbe Key and Plantation Key. Sites are identified will be finalized with Design Build Operate Agreement. Additional site on upper Matecumbe Key identified in final Design Build Operate agreement. Total maximum land acreage is 52,000 square feet; all are disturbed sites with no mapped hammock.	No application was received by DEP	July 1, 2012	
3	2. By July 1, 2012, Islamorada shall enter into a memorandum of understanding with the state land planning agency, Division of Emergency Management, Marathon, Monroe, Key West, Key Colony Beach, and Layton after a notice, public workshop and comment period of at least 30 days for interested parties. The memorandum of understanding shall stipulate, based on professionally acceptable data and analysis, the input variables and assumptions, including regional considerations, for utilizing the Florida Keys Hurricane Evacuation Model or other models acceptable to the agency to accurately depict evacuation clearance times for the population of the Florida Keys.	Achieved	The MOU has been executed by all parties	MOU approved by the Village Council on September 10, 2012 via Resolution 12-09-81.		July 1, 2012	
4	3. By July 1, 2012, the Florida Keys Hurricane Evacuation Model shall be run with the agreed upon variables from the memorandum of understanding. Islamorada and the state land planning agency shall update the data for the Florida Keys Hurricane Evacuation Model as professionally acceptable sources of information are released (such as the Census, American Communities Survey, Bureau of Business and Economic Research, and other studies). Islamorada shall also evaluate and address appropriate adjustments to the hurricane evacuation model within each Evaluation and Appraisal Report.	Achieved	The data has been updated based on the executed MOU			July 1, 2012	
5	4. By July 1, 2012, Islamorada shall complete an analysis of maximum build-out capacity for the Florida Keys Area of Critical State Concern, consistent with the requirement to maintain a 24-hour evacuation clearance time and the Florida Keys Carrying Capacity Study constraints. This analysis shall be prepared in coordination with the state land planning agency, Monroe County and each municipality in the Keys.	Achieved	Maximum build out scenarios were completed			July 1, 2012	
6	5. By July 1, 2012, the state land planning agency (agency) shall apply the derived clearance time to assess and determine the remaining allocations for the Florida Keys Areas of Critical State Concern. The agency will recommend appropriate revisions to the Administration Commission regarding the allocation rates and distribution of allocations to Monroe County, Marathon, Islamorada, Key West, Layton and Key Colony Beach or identify alternative evacuation strategies that support the 24-hour evacuation clearance time. If necessary, state land planning agency shall work with each local government to amend the Comprehensive Plans to reflect revised allocation rates and distributions or propose rule making to the Administration Commission.	Achieved	DEO determined that 364 units could be constructed through 2023 under the comprehensive plan			July 1, 2012	
7	6. By July 1, 2013, based on the state land planning agency's recommendations, Islamorada shall amend the current building permit allocation system (BPAS in the Comprehensive Plan and Land Development Regulations) based on infrastructure availability, level of service standards, environmental carrying capacity constraints, and hurricane evacuation clearance time.	Achieved				July 1, 2013	Yes
8	By March 31, 2012, the Area of Critical State Concern staff shall amend the agendas for the Hurricane Evacuation Clearance Modeling Workshops to include the potential for future transient allocations and their impact on hurricane evacuation clearance times. (January 18, 2012 Administration Commission Action)	Achieved					

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		Status	State Land Planning Agency Comments	Islamorada Comments	Department of Environmental Protection Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-19.310, F.A.C.</b>	<b>Achieved/Not Achieved</b>					
9	<b>(5)(b) Wastewater Implementation.</b>						
10	1. Beginning July 1, 2011 and each July 1 thereafter, Islamorada shall identify any funding for wastewater implementation. Islamorada shall identify any funding in the annual update to the Capital Improvements Element of the Comprehensive Plan.	Achieved	\$10,658,400 paid to KIWTP for capacity allocation charge and plant capacity upgrades	Capital Improvement Plan allocated \$44.350 million for FY 2012/2013		July 1, 2012	HB 7207 removes the requirement that the capital improvement schedule be an amendment to the comprehensive plan.
11	2. By December 1, 2013, Islamorada shall provide a final determination of non-service areas requiring upgrade to meet Sections 381.0065(4)(l) and 403.086(10), F.S., wastewater treatment and disposal standards. This shall be in the form of a resolution including a map of the non-service areas.					December 1, 2013	
12	3. By December 1, 2013, Islamorada shall work with the owners of wastewater facilities and on site systems throughout the Village and the Department of Environmental Protection (DEP) and the Department of Health (DOH) to fulfill the requirements of Sections 381.0065(3)(h) and (4)(l) and 403.086(10), F.S., regarding implementation of wastewater treatment and disposal systems. This will include coordination of actions with DOH and DEP to notify owners regarding systems that will not meet 2015 treatment and disposal standards.					December 1, 2013	
13	4. By July 1, 2011 and by July 1 of each year thereafter, Islamorada shall evaluate its wastewater needs and state and federal funding opportunities and apply annually to at least one state or federal grant program for wastewater projects and connections.	Achieved		On June 30, 2012, Islamorada submitted proposal the National fish and Wildlife Foundation's Community Wastewater and Water Quality Improvement Project for \$250,000. Grant awards to be announced November 15, 2012. Transmitted confirmation of application to DEO 7/02/12.	\$20 million in grant funds have been committed to Islamorada and the grant agreement is currently being drafted. The preconstruction loan agreement has been drafted and sent to Islamorada. The construction loan application is to be submitted by the end of September. Between these two loans, they will have access to \$26 million in Clean Water State Revolving Fund loans.	July 1, 2012	
14	5. By September 1, 2011, Islamorada shall develop and implement local funding programs necessary to timely fund wastewater construction and future operation, maintenance and replacement of facilities.	Achieved				September 1, 2011	
15	6. By July 1, 2011 and each July 1 thereafter through 2013, Islamorada shall annually draft a resolution requesting the issuance of a portion of the \$200 million of bonds authorized under Section 215.619, F.S., and an appropriation of sufficient debt service for those bonds, for the construction of wastewater projects within the Florida Keys.	Achieved		Resolution 12-02-12 passed and adopted on February 23, 2012.		July 1, 2012	
16	7. By July 1, 2011 and each July 1 thereafter through 2013, Islamorada shall develop a mechanism to provide accurate and timely information and establish Islamorada's annual funding allocations necessary to provide unmet funding needs to support the issuance of bonds authorized under Section 215.619, F.S., and to assure the timely completion of work as necessary to fulfill any terms and conditions associated with bonds.	Achieved		Wastewater Management Plan adopted by the Village Council via Resolution 12-05-39 on May 24, 2012 contains the Capital Financing Plan as Appendix I.	\$20 million in grant funds have been committed to Islamorada and the grant agreement is currently being drafted. The preconstruction loan agreement has been drafted and sent to Islamorada. The construction loan application is to be submitted by the end of September. Between these two loans, they will have access to \$26 million in Clean Water State Revolving Fund loans.	July 1, 2012	
17	8. By December 1, 2013, Islamorada shall provide a report of addresses and the property appraiser's parcel numbers of any property owner that fails or refuses to connect to the central sewer facility within the required timeframe to the Monroe County Health Department, Department of Environmental Protection and the state land planning agency. This report shall describe the status of Islamorada's enforcement action and provide the circumstances of why enforcement may or may not have been initiated.					December 1, 2013	

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		Status	State Land Planning Agency Comments	Islamorada Comments	Department of Environmental Protection Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-19.310, F.A.C.</b>	<b>Achieved/Not Achieved</b>					
18	<b>(5)(c) Wastewater Project Implementation.</b>						
19	1. By June 1, 2011, Islamorada shall provide a wastewater financing plan to the state land planning agency and Administration Commission.	Achieved				June 1, 2011	
20	2. By July 1, 2011, Islamorada shall conclude negotiations with Key Largo Wastewater Treatment District for treatment capacity.	Achieved (late)			Achieved - DEP has received the executed interlocal agreement between the Village and the Key Largo Wastewater District.	July 1, 2011	
21	3. By July 1, 2011, Islamorada shall advertise for proposal for design build operate finance construction of Village-wide wastewater system.	Achieved				July 1, 2011	
22	4. By July 1, 2011 submit a copy of contract agreement with Key Largo Wastewater District documenting acceptance of effluent or alternative plan with construction of wastewater treatment plants in Village that ensures completion and connection of customers by December 2015.	Achieved (late)	Agreement executed 5/22/2012		Achieved - DEP has received the executed inter-local agreement between the Village and the Key Largo Wastewater District.	July 1, 2011	
23	5. By July 1, 2011, Islamorada shall make available to its customers an additional 700 connections (Phase II) to the North Plantation Key Wastewater Treatment Plant (WWTP).	Achieved			As of September 20, 2012 they have completed 817 connections and they have about 300 more to go for an approximate total of 1,117 connections including both North Plantation Key Phase I and II .	July 1, 2011	
24	6. By September 1, 2011, Islamorada shall select the design build operate finance contractor for the Village-wide wastewater system.	Achieved (late)				September 1, 2011	
25	7. By October 1, 2011, Islamorada shall submit a wastewater construction status report to the state land planning agency and the Administration Commission which includes substantial completion of construction prior to January 1, 2015 and final completion prior to July 1, 2015.	Achieved (late)				October 1, 2011	
26	By January 31, 2012, Islamorada shall submit a wastewater construction status report to the state land planning agency and the Administration Commission which includes substantial completion of construction prior to January 1, 2015 and final completion prior to July 1, 2015. (January 18, 2012 Administration Commission Action)	Achieved					
27	8. By September 1, 2013, Islamorada shall complete final design of the Village-wide wastewater system.					September 1, 2013	
28	9. By December 1, 2013, Islamorada shall commence construction of the Village-wide wastewater system.					December 1, 2013	
29	10. By June 1, 2014, Islamorada shall make available to its customers 25% of the Equivalent Dwelling Unit (EDU) connections to the Village-wide wastewater system.					June 1, 2014	
30	11. By December 1, 2014, Islamorada shall make available to its customers 50% of the Equivalent Dwelling Unit (EDU) connections to the Village-wide wastewater system.					December 1, 2014	
31	12. By June 1, 2015, Islamorada shall make available to its customers 75% of the Equivalent Dwelling Unit (EDU) connections to the Village-wide wastewater system.					June 1, 2015	
32	13. By December 1, 2015, Islamorada shall make available to its customers 100% of the Equivalent Dwelling Unit (EDU) connections to the Village-wide wastewater system.					December 1, 2015	

**City of Marathon  
2012-Annual Report**

		Status	Marathon Comments	Department of Environmental Protection Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-18.400, F.A.C.</b>	<b>Achieved/Not Achieved</b>				
1	<b>(5)(a) Carrying Capacity Study Implementation.</b>					
2	1. By July 1, 2011, Marathon shall adopt a Comprehensive Plan Policy to require that administrative relief in the form of the issuance of a building permit is not allowed for lands within the Florida Forever targeted acquisition areas unless, after 60 days from the receipt of a complete application for administrative relief, it has been determined the parcel will not be purchased by any city, county, state or federal agency. Marathon shall develop a mechanism to routinely notify the Department of Environmental Protection of upcoming administrative relief requests at least 6 months prior to the deadline for administrative relief.	Achieved		DEP staff has not received any inquiries for Administrative Relief requests in the last 12 months, and assumes Marathon has not had any to submit.	July 1, 2011	Yes
3	2. By July 1, 2011, Marathon shall adopt Land Development Regulations to require that administrative relief in the form of the issuance of a building permit is not allowed for lands within the Florida Forever targeted acquisition areas unless, after 60 days from the receipt of a complete application for administrative relief, it has been determined the parcel will not be purchased by any city, county, state or federal agency.	Achieved			July 1, 2011	
4	3. By July 1, 2011, Marathon shall amend the Comprehensive Plan to limit allocations into high quality tropical hardwood hammock.	Achieved			July 1, 2011	Yes
5	4. By July 1, 2011, Marathon shall amend the Land Development Regulations to limit allocations into high quality tropical hardwood hammock.	Achieved			July 1, 2011	
6	5. By July 1, 2011, Marathon shall adopt a Comprehensive Plan Policy discouraging private applications for future land use map amendments which increase allowable density/intensity on lands in the Florida Keys.	Not Achieved	Marathon has passed in first reading and transmitted to FDEO as Annual Comp Plan Amendment 12-2		July 1, 2011	Yes
7	6. By July 1, 2011, and each July thereafter, Marathon shall evaluate its land acquisition needs and state and federal funding opportunities and apply annually to at least one state or federal land acquisition grant program.	Not Achieved	Continued targeted acquisition of Boot Key through FDEP & NOAA. Have acquired 21 parcels in Crain Subd, Grassy Key, a part of previously targeted acquisition.	DEP, in partnership with Marathon, applied for funding from the Coastal and Estuarine Land Conservation Program (CELCP) to be used to acquire lands on Boot Key. A total of \$1,527,500 was awarded in July, 2011.	July 1, 2012	
8	7. By July 1, 2012, Marathon shall enter into a memorandum of understanding with the State Land Planning Agency, Division of Emergency Management, Monroe County, Islamorada, Key West, Key Colony Beach, and Layton after a notice and comment period of at least 30 days for interested parties. The memorandum of understanding shall stipulate, based on professionally acceptable data and analysis, the input variables and assumptions, including regional considerations, for utilizing the Florida Keys Hurricane Evacuation Model or other models acceptable to the State Land Planning Agency to accurately depict evacuation clearance times for the population of the Florida Keys.	Achieved			July 1, 2012	
9	8. By July 1, 2012, the Florida Keys Hurricane Evacuation Model shall be run with the agreed upon variables from the memorandum of understanding. Marathon and the state land planning agency shall update the data for the Florida Keys Hurricane Evacuation Model as professionally acceptable sources of information are released (such as the Census, American Communities Survey, Bureau of Business and Economic Research, and other studies). The City shall also evaluate and address appropriate adjustments to the hurricane evacuation model within each Evaluation and Appraisal Report.	Achieved			July 1, 2012	
10	9. By <del>December 1, 2012</del> , <b>July 1, 2012</b> Marathon shall complete an analysis of maximum build-out capacity for the Florida Keys Area of Critical State Concern, consistent with the requirement to maintain a 24-hour evacuation clearance time and the Florida Keys Carrying Capacity Study constraints. This analysis shall be prepared in coordination with the state land planning agency, Monroe County and each municipality in the Keys.	Achieved			<del>December 1, 2012</del> <b>July 1, 2012</b>	

Technical correction: Dates inconsistent with the intent of the Administration Commission's direction to Monroe County (28-20.140) and Islamorada (28-19.310)



**City of Marathon  
2012-Annual Report**

		Status	Marathon Comments	Department of Environmental Protection Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-18.400, F.A.C.</b>	<b>Achieved/Not Achieved</b>				
11	<b>(5)(a) Carrying Capacity Study Implementation.</b>					
12	10. By December 1, 2012, July 1, 2012 the state land planning agency (agency) shall apply the derived clearance time to assess and determine the remaining allocations for the Florida Keys Areas of Critical State Concern. The agency will recommend appropriate revisions to the Administration Commission regarding the allocation rates and distribution of allocations to Monroe County, Marathon, Islamorada, Key West, Layton and Key Colony Beach or identify alternative evacuation strategies that support the 24-hour hurricane evacuation clearance time. If necessary, the state land planning agency shall work with each local government to amend the respective Comprehensive Plans to reflect revised allocation rates and distributions or propose rule making to the Administration Commission.	Achieved			December 1, 2012 July 1, 2012	
13	11. By July 1, 2013, based on the state land planning agency's recommendations, Marathon shall amend the current building permit allocation system (BPAS in the Comprehensive Plan and Land Development Regulations) based on infrastructure availability, level of service standards, environmental carrying capacity, and hurricane evacuation clearance time.				July 1, 2013	Yes
14	The City of Marathon may propose and adopt an amendment to their comprehensive plan to include a one-time allocation of 100 transient dwelling units. The plan amendment may also include an additional 100 units composed of units from the Administrative Relief pool and borrowing forward from the City's future allocations. (January 18, 2012 Administration Commission Action)		Ordinance 2012-06, revised based on ORC. Adopted September 9, 2012			Yes
15	By March 31, 2012, the Area of Critical State Concern staff shall amend the agendas for the Hurricane Evacuation Clearance Modeling Workshops to include the potential for future transient allocations and their impact on hurricane evacuation clearance times. (January 18, 2012 Administration Commission Action)	Achieved				
16	<b>(5)(b) Wastewater Implementation.</b>					
17	1. By July 1, 2011 and each July 1 thereafter, Marathon shall annually evaluate and allocate funding for wastewater implementation. Marathon shall identify any funding in the annual update to the Capital Improvements Element of the Comprehensive Plan.	Achieved	Conversion of commercial loans to Clean Water State Revolving Fund loans	Marathon has requested loans sufficient to completely fund their current wastewater and stormwater projects. No further loans are anticipated after FY 2013.	July 1, 2012	HB 7207 removes the requirement that the capital improvement schedule be an amendment to the comprehensive plan.
18	2. December 1, 2013, Marathon shall work with the owners of wastewater facilities and onsite systems throughout the City and the Department of Environmental Protection (DEP) and the Department of Health (DOH) to fulfill the requirements of Sections 381.0065(3)(h) and (4)(l) and 403.086(10), F.S., regarding implementation of wastewater treatment and disposal. This will include coordination of actions with DOH and DEP to notify owners regarding systems that will not meet 2015 treatment and disposal requirements.			Marathon has been working diligently with FDEP and the owners of permitted wastewater facilities to complete the required sewer connections in accordance with Section 403.086(10), F.S.	December 1, 2013	
19	3. By July 1, 2011, Marathon shall evaluate its wastewater needs and state and federal funding opportunities and apply annually to at least one state or federal grant program for wastewater projects and connections.	Not Achieved		Marathon has requested loans sufficient to completely fund their current wastewater and stormwater projects. No further loans are anticipated after FY 2013.	July 1, 2012	
20	4. By July 1, 2011, Marathon shall continue to develop and implement local funding programs necessary to timely fund wastewater construction and future operation, maintenance and replacement facilities.	Achieved			July 1, 2011	
21	5. By July 1, 2011 and each year through 2013, Marathon shall annually draft a resolution requesting the issuance of a portion of the \$200 million of bonds authorized under Section 215.619, F.S., and an appropriation of sufficient debt service for those bonds, for the construction of wastewater projects within the Florida Keys.	Achieved			July 1, 2012	

Technical correction: Dates inconsistent with the intent of the Administration Commission's direction to Monroe County (28-20.140) and Islamorada (28-19.310)

**City of Marathon  
2012-Annual Report**

		Status	Marathon Comments	Department of Environmental Protection Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-18.400, F.A.C.</b>	<b>Achieved/Not Achieved</b>				
22	<b>(5)(b) Wastewater Implementation.</b>					
23	6. By July 1, 2011, Marathon shall develop a mechanism to provide accurate and timely information and establish Marathon's annual funding allocations necessary to provide evidence of unmet funding needs to support the issuance of bonds authorized under Section 215.619, F.S., and to assure the timely completion of work as necessary to fulfill any terms and conditions associated with bonds.	Achieved			July 1, 2011	
24	7. By December 1, 2012, Marathon shall provide a report of addresses and the property appraiser's parcel numbers of any property owner that fails or refuses to connect to the central sewer facility within the required timeframe to the Monroe County Health Department and the state land planning agency. This report shall describe the status of Marathon's enforcement action and provide the circumstances of why enforcement may or may not have been initiated.				December 1, 2012	
25	<b>(5)(c) Wastewater Project Implementation.</b>					
26	<b>1. Sub area 1: Knight's Key.</b>					
27	a. By July 1, 2011, Marathon shall secure plant site;	* see note below		Not applicable. Area 1 parcels are now being connected to the Area 3 WWTP.	July 1, 2011	
28	b. By December 1, 2011, Marathon shall construct Knight's Key Wastewater Plant;	* see note below		Not applicable. Area 3 WWTP has been completed and has been placed in operation.	December 1, 2011	
29	c. By May 1, 2012, Marathon shall initiate connections; and	Achieved	Notices went out in 5/11/2012	Achieved	May 1, 2012	
30	d. By July 1, 2012, Marathon shall complete connections (100%).	* see note below		36% of parcels in Area 1 have been connected to the Area 3 plant and additional connections are underway.	July 1, 2012	
31	<b>2. Sub area 2: Boot Key (non-service area).</b>					
32	By July 1, 2011, Marathon shall ensure completion of upgrade.	Achieved			July 1, 2011	
33	<b>3. Sub area 3: 11 Street – 39 Street (Vaca Key West).</b>					
34	a. By July 1, 2011, Marathon shall complete construction of plant;	Achieved			July 1, 2011	
35	b. By July 1, 2011, Marathon shall complete construction of collection system;	Achieved			July 1, 2011	
36	c. By July 1, 2011, Marathon shall initiate connections; and	Achieved	Notices went out 9/22/2011 & 3/31/2012		July 1, 2011	
37	d. By July 1, 2012, Marathon shall complete connections (100%).	Not Achieved		According to the latest report from the City , at least 36% of the parcels have been connected.	July 1, 2012	
38	<b>4. Sub area 4: Gulfside 39 Street (Vaca Key Central).</b>					
39	By July 1, 2013, Marathon shall complete connections (100%).			According to the latest report from the City at least 91% of the Area 4 parcels have been connected.	July 1, 2013	

\* Due to legal circumstances beyond the City's control, a plant site was not secured at Knight's Key and the plant was not constructed. The City connected this service area through a force main to the Area 3 plant.

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		Status	Marathon Comments	Department of Environmental Protection Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-18.400, F.A.C.</b>	<b>Achieved/Not Achieved</b>				
40	<b>5. Sub area 5: Little Venice (60 Street – Vaca Cut East).</b>					
41	a. By July 1, 2012, Marathon shall complete construction of collection system;	Achieved		Achieved	July 1, 2012	
42	b. By July 1, 2012, Marathon shall initiate connections for Phase II;	Achieved	Notices went out 1/20/2012, 2/10/2012. & 4/2/2012	Achieved. The treatment plant expansion has been completed and connections are underway.	July 1, 2012	
43	c. By July 1, 2013, Marathon shall complete connections (100%) for Phase II.				July 1, 2013	
44	<b>6. Sub area 6-Vaca Cut-Coco Plum (Fat Key Deer West).</b>					
45	By July 1, 2011, Marathon shall complete connections (100%).	Achieved		According to the latest City report , as of September 11, 2012, 95% of parcels have been connected.	July 1, 2011	
46	<b>7. Sub area 7: Tom Harbor Bridge-Grassy Key.</b>					
47	a. By July 1, 2012, Marathon shall complete construction of plant;	Achieved		Achieved. Area 7 Plant has been completed and placed in service.	July 1, 2012	
48	b. By July 1, 2012, Marathon shall bid and award design of collection system;	Achieved			July 1, 2012	
49	c. By July 1, 2012, Marathon shall complete construction of collection system;*	Achieved		Complete except for modification of several pump stations located within the US 1 Highway right of way in order to comply with FDOT standards.	July 1, 2012	
50	d. By July 1, 2012, Marathon shall initiate connections; and	Achieved	Notices went out on 4/21/2012	Achieved	July 1, 2012	
51	e. By July 1, 2013, Marathon shall complete connections (100%).				July 1, 2013	
52	<b>(5)(d) Stormwater Treatment Facilities.</b>					
53	1. Beginning July 1, 2011 and each July 1 thereafter Marathon shall annually evaluate and allocate funding for stormwater implementation. Marathon shall identify any funding in the annual update to the Capital Improvements Element of the Comprehensive Plan.	Achieved	Marathon has a dedicated Stormwater Utility which charges annual non-advalorem tax of \$120	Achieved	July 1, 2012	
54	2. Beginning July 1, 2011 and each July 1 thereafter, Marathon shall annually apply for stormwater grants from the South Florida Water Management District.	Funds not available not counted for or against			July 1, 2012	
55	3. By July 1, 2011, complete Stormwater Treatment Facilities simultaneously with wastewater projects, including the direct outfall retrofits for 27th Street and 24th Street. Sub area 3: 11 Street – 37 Street (Vaca Key West)	Achieved			July 1, 2011	
56	4. By July 1, 2012, complete Stormwater Treatment Facilities simultaneously with wastewater projects. Sub area 5: Little Venice (60 Street – Vaca Cut East).	Achieved			July 1, 2012	
57	5. By July 1, 2012, complete Stormwater Treatment Facilities simultaneously with wastewater projects. Sub area 7: Tom Harbor Bridge-Grassy Key.	Achieved			July 1, 2012	
58	6. By July 1, 2012, Marathon shall eliminate direct outfall retrofits for: 27th Street, Sombrero Islands, 24th Street, and 52nd Street.	Achieved			July 1, 2012	

\* Corrects scrivener's error in Rule 28-18(5)(c) 7. c., F.A.C.

**Monroe County  
2012 - Annual Report**

		ACSC Status	Monroe Comments	Department of Environmental Protection Comments	Department of Health Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-20.140, F.A.C.</b>	<b>Achieved/ Not Achieved</b>					
1	<b>(5)(a) Carrying Capacity Study Implementation.</b>						
2	1. By July 1, 2012, Monroe County shall adopt the conservation planning mapping (the Tier Zoning Overlay Maps and System) into the Comprehensive Plan based upon the recommendations of the Tier Designation Review Committee with the adjusted Tier boundaries.	Not Achieved	Tier Overlay (Zoning) Maps: Ordinance 005-2011 assigned a tier designation to 92 parcels currently competing for an allocation. Ordinance 006-2011 assigned a tier designation to 110 parcels which have been awarded an allocation or building permit. Ordinance 007-2011 assigned a tier designation to 2,891 parcels determined to have no Tier due to the challenge. Ordinance 008-2011 assigned a tier designation to 301 parcels proposed for review by the BOCC, staff or owners in Resolution No. 148-2006 dated March 15, 2006.  <b>NOTE:</b> The plaintiff has requested revisions to tier designations for Volume A. Further, the County noted that offshore islands needed to be designated. These amendments will be processed during the remainder of 2012 through 2013. Once these amendments are processed locally, reviewed by DEO, the appeal period expires and the designations become effective - the County will address any necessary Comprehensive Plan amendments.			July 1, 2012	Yes
3	2. By July 1, 2012, Monroe County shall adjust the Tier I and Tier IIIA (SPA) boundaries to more accurately reflect the criteria for that Tier as amended by Final Order DCA07-GM166 and implement the Florida Keys Carrying Capacity Study, utilizing the updated habitat data, and based upon the recommendations of the Tier Designation Review Committee Work Group.	Achieved	Monroe County adopted four (4) ordinances on May 4, 2011, to revise or assign the tier overlay designation for 3,394 parcels based upon recommendations from the Tier Designation Review Committee Work Group, Monroe County staff, the Planning Commission, Board of County Commissioners and the public. The County adopted Tier Overlay District map amendments to the Monroe County Land Development Code, in accordance with the Final Order in DOAH Case No. 06-2449GM. Ordinance 005-2011 assigned a tier designation to 92 parcels currently competing for an allocation. Ordinance 006-2011 assigned a tier designation to 110 parcels which have been awarded an allocation or building permit. Ordinance 007-2011 assigned a tier designation to 2,891 parcels determined to have no Tier due to the challenge. Ordinance 008-2011 assigned a tier designation to 301 parcels proposed for review by the BOCC, staff or owners in Resolution No. 148-2006 dated March 15, 2006.			July 1, 2012	
4	3. By July 1, 2012, Monroe County shall create Goal 106 to complete the 10 Year Work Program found in Rule 28-20.110, F.A.C., and to establish objectives to develop a build-out horizon in the Florida Keys and adopt conservation planning mapping into the Comprehensive Plan.	Not Achieved	Tier Overlay (Zoning) Maps: Ordinance 005-2011 assigned a tier designation to 92 parcels currently competing for an allocation. Ordinance 006-2011 assigned a tier designation to 110 parcels which have been awarded an allocation or building permit. Ordinance 007-2011 assigned a tier designation to 2,891 parcels determined to have no Tier due to the challenge. Ordinance 008-2011 assigned a tier designation to 301 parcels proposed for review by the BOCC, staff or owners in Resolution No. 148-2006 dated March 15, 2006.  <b>NOTE:</b> The plaintiff has requested revisions to tier designations for Volume A. Further, the County noted that offshore islands needed to be designated. These amendments will be processed during the remainder of 2012 through 2013. Once these amendments are processed locally, reviewed by DEO, the appeal period expires and the designations become effective - the County will address any necessary Comprehensive Plan amendments.			July 1, 2012	Yes

**Monroe County  
2012 - Annual Report**

		ACSC Status	Monroe Comments	Department of Environmental Protection Comments	Department of Health Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-20.140, F.A.C.</b>	<b>Achieved/ Not Achieved</b>					
5	<b>(5)(a) Carrying Capacity Study Implementation.</b>						
6	4. By July 1, 2012, Monroe County shall create Objective 106.2 to adopt conservation planning mapping (Tier Maps) into the Monroe Comprehensive Plan based upon the recommendations of the Tier Designation Review Committee Work Group.	Not Achieved	see comment above for Row 4			July 1, 2012	Yes
7	5. By July 1, 2012, Monroe County shall adopt Policy 106.2.1 to require the preparation of updated habitat data and establish a regular schedule for continued update to coincide with evaluation and appraisal report timelines.	Not Achieved	see comment above for Row 4			July 1, 2012	Yes
8	6. By July 1, 2012, Monroe County shall adopt Policy 106.2.2 to establish the Tier Designation Work Group Review Committee to consist of representatives selected by the state land planning agency from Monroe County, Florida Fish & Wildlife Conservation Commission, United States Fish & Wildlife Service, Department of Environmental Protection and environmental and other relevant interests. This Committee shall be tasked with the responsibility of Tier designation review utilizing the criteria for Tier placement and best available data to recommend amendments to ensure implementation of and adherence to the Florida Keys Carrying Capacity Study. These proposed amendments shall be recommended during 2009 and subsequently coincide with the Evaluation and Appraisal report timelines beginning with the second Evaluation and Appraisal review which follows the adoption of the revised Tier System and Maps as required above adopted in 2011. Each evaluation and appraisal report submitted following the 2011 evaluation and appraisal report shall also include an analysis and recommendations based upon the process described above.	Not Achieved	see comment above for Row 4			July 1, 2012	Yes
9	7. By July 1, 2012 and each July thereafter, Monroe County and the Monroe County Land Authority shall submit a report annually to the Administration Commission on the land acquisition funding and efforts in the Florida Keys to purchase Tier I and Big Pine Key Tier II lands and the purchase of parcels where a Monroe County building permit allocation has been denied for four (4) years or more. The report shall include an identification of all sources of funds and assessment of fund balances within those sources available to the County and the Monroe County Land Authority.	Achieved	From August 1, 2011 to July 31, 2012, the Monroe County Land Authority has acquired 73 Tier I parcels and four (4) Tier II parcels on Big Pine Key.  From August 1, 2011 to July 31, 2012, the Monroe County Land Authority received four (4) requests to purchase parcels requesting administrative relief. Four requests include: three (3) Tier I parcels and one (1) Tier III-A SPA parcel. Four purchase offers were made to the property owners but none were accepted.			July 1, 2012	
10	8. By July 1, 2012, Monroe County shall adopt Land Development Regulations to require that administrative relief in the form of the issuance of a building permit is not allowed for lands within the Florida Forever targeted acquisition areas or Tier I lands unless, after 60 days from the receipt of a complete application for administrative relief, it has been determined the parcel will not be purchased by any county, state, federal or any private entity. The County shall develop a mechanism to routinely notify the Department of Environmental Protection of upcoming administrative relief requests at least 6 months prior to the deadline for administrative relief.	Achieved	Monroe County adopted Ordinance 011-2012 on May 16, 2012. The Ordinance amends the Administrative Relief provisions in Sections 138-27 and 138-54 of the Monroe County Code to provide notice of applications for administrative relief to the Florida Department of Environmental Protection and temporarily prohibit administrative relief in the form of a building permit for land in the Florida Forever targeted acquisition areas or Tier I lands so it can be determined whether such lands can be purchased for conservation purposes by a county, state, federal or private entity.	Monroe County Land Authority continues to submit administrative relief requests to DEP's State Lands and State Lands has responded.		July 1, 2012	

**Monroe County  
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		ACSC Status	Monroe Comments	Department of Environmental Protection Comments	Department of Health Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-20.140, F.A.C.</b>	<b>Achieved/ Not Achieved</b>					
11	<b>(5)(a) Carrying Capacity Study Implementation.</b>						
12	9. By July 1, 2012, in order to implement the Florida Keys Carrying Capacity Study, Monroe County shall adopt a Comprehensive Plan Policy to discourage private applications for future land use changes which increase allowable density/intensity.	Achieved	On February 13, 2012, the BOCC held a public hearing and transmitted the proposed amendment pursuant to Resolution 021-2012, creating a policy to discourage private applications for future land use map changes which increase allowable density/intensity to the State Land Planning Agency. On May 4, 2012, the State Land Planning Agency issued an Objections, Recommendations and Comment (ORC) Report to Monroe County which identified one objection to the proposed amendment. The County has revised the proposed amendment to address the issue raised in the ORC report. On September 21, 2012, the BOCC held a public hearing and adopted the amendment.			July 1, 2012	Yes
13	10. By July 1, 2011, Monroe County shall evaluate its land acquisition needs and state and federal funding opportunities and apply annually to at least one state or federal land acquisition grant program.	Achieved	Monroe County Land Authority applied for a federal land acquisition grant from the US Army Corps of Engineers on February 14, 2012. The application was funded in the amount of \$67,397.83.	No application was received by DEP		July 1, 2012	
14	11. By July 1, 2012, Monroe County shall enter into a memorandum of understanding with the state land planning agency (agency), Division of Emergency Management, Marathon, Islamorada, Key West, Key Colony Beach, and Layton after a notice and comment period of at least 30 days for interested parties. The memorandum of understanding shall stipulate, based on professionally acceptable data and analysis, the input variables and assumptions, including regional considerations, for utilizing the Florida Keys Hurricane Evacuation Model or other models acceptable to the agency to accurately depict evacuation clearance times for the population of the Florida Keys.	Achieved	On September 21, 2012, the BoCC approved Resolution 226-2012 and executed the hurricane memorandum of understanding (MOU) developed by the Work Group members and provided by DEO.			July 1, 2012	
15	12. By July 1, 2012, the Florida Keys Hurricane Evacuation Model shall be run with the agreed upon variables from the memorandum of understanding to complete an analysis of maximum build-out capacity for the Florida Keys Area of Critical State Concern, consistent with the requirement to maintain a 24-hour evacuation clearance time and the Florida Keys Carrying Capacity Study constraints. This analysis shall be prepared in coordination with the state land planning agency and each municipality in the Keys.	Achieved	Monroe County has been an active participant in all four DEO Hurricane Evacuation Clearance Time Work Group (Work Group) meetings. Commissioner Sylvia Murphy was the County's representative on the Work Group. Additionally, County staff were tasked as Technical Advisory Contributors to the Work Group. County actively participated in reviewing data, developing hurricane model scenarios, reviewing scenario results and suggesting strategies to accurately depict evacuation clearance times.			July 1, 2012	
16	13. By July 1, 2012, the state land planning agency shall update the data for the Florida Keys Hurricane Evacuation Model as professionally acceptable sources of information are released (such as the Census, American Communities Survey, Bureau of Economic and Business Research, and other studies). The County shall also evaluate and address appropriate adjustments to the hurricane evacuation model within each Evaluation and Appraisal Report.	Achieved	The State Land Planning Agency updated the data for the hurricane model, including the 2010 Census small area data and FDOT roadway capacities. The County assisted in reviewing data updates and provided vacant land analysis for the model update.			July 1, 2012	Yes
17	14. By July 1, 2012, the state land planning agency (agency) shall apply the derived clearance time to assess and determine the remaining allocations for the Florida Keys Areas of Critical State Concern. The agency will recommend appropriate revisions to the Administration Commission regarding the allocation rates and distribution of allocations to Monroe County, Marathon, Islamorada, Key West, Layton and Key Colony Beach or identify alternative evacuation strategies that support the 24 hour evacuation clearance time. If necessary, the state land planning agency shall work with each local government to amend the Comprehensive Plans to reflect revised allocation rates and distributions or propose rule making to the Administration Commission.	Achieved	Based upon the review of 100+ model scenarios and the Work Groups recommended scenario, the State Land Planning Agency has stated that a minimum of 3,540 additional allocations could be distributed among Florida Keys local governments, while still maintaining an evacuation clearance time of 24 hours.			July 1, 2012	
18	15. By July 1, 2013, if necessary, the state land planning agency shall work with each local government to amend the Comprehensive Plan to reflect revised allocation rates and distribution or propose rule making to the Administration Commission.					July 1, 2013	Yes
19	By March 31, 2012, the Area of Critical State Concern staff shall amend the agendas for the Hurricane Evacuation Clearance Modeling Workshops to include the potential for future transient allocations and their impact on hurricane evacuation clearance times. (January 18, 2012 Administration Commission Action)	Achieved	Based upon scenarios provided by DEO and evaluated by the Hurricane Evacuation Work Group, the first phase of evacuation (Day 1 which includes transient units, mobile home units, and military units) the results ranged from 15.5 hours to 17.5 hours, well below 24-hours. The addition of transient units may still impact the overall evacuation time within the Florida Keys and, as such, the Monroe County BOCC has not been supportive of granting new transient units because of this factor.				



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		ACSC Status	Monroe Comments	Department of Environmental Protection Comments	Department of Health Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-20.140, F.A.C.</b>	<b>Achieved/ Not Achieved</b>					
20	<b>(5)(b) Wastewater Implementation.</b>						
21	1. By July 1, 2011, Monroe County shall annually evaluate and allocate funding for wastewater implementation. Monroe County shall identify any funding in the annual update to the Capital Improvements Element of the Comprehensive Plan.	Achieved	In July 2012, the BOCC levied assessments for the Cudjoe Regional Wastewater system on both inner and outer islands areas. An unobligated \$20 million balance was identified in the Infrastructure Sales tax fund (Fund 304) which was earmarked for use on the Cudjoe Regional projects. The BOCC authorized a referendum to extend the infrastructure sales tax until 2033 with the proceeds to fund wastewater projects in the County until those projects are fully funded.	No information provided to DEP.		July 1, 2012	HB 7207 removes the requirement that the capital improvement schedule be an amendment to the comprehensive plan.
22	2. By December 1, 2013, Monroe County shall work with the owners of wastewater facilities and onsite systems throughout the County and the Department of Health (DOH) and the Department of Environmental Protection (DEP) to fulfill the requirements of Sections 403.086(10) and 381.0065(3)(h) and (4)(l), F.S., regarding implementation of wastewater treatment and disposal. This will include coordination of actions with DOH and DEP to notify owners regarding systems that will not meet the 2015 treatment and disposal standards.					December 1, 2013	
23	3. By July 1, 2011, Monroe County shall annually draft a resolution requesting the issuance of \$50 million of the \$200 million of bonds authorized under Section 215.619, F.S., and an appropriation of sufficient debt service for those bonds, for the construction of wastewater projects within the Florida Keys.	Achieved	Resolution 077-2012, passed and adopted by BOCC on February 15, 2012	\$50 million bond was authorized in the 2012 legislative session.		July 1, 2012	
24	4. By July 1, 2011, Monroe County shall develop a mechanism to provide accurate and timely information and establish the County's annual funding allocations necessary to provide evidence of unmet funding needs to support the issuance of bonds authorized under Section 215.619, F.S., and to assure the timely completion of work as necessary to fulfill any terms and conditions associated with bonds.	Achieved				July 1, 2011	
25	5. By July 1, 2011, Monroe County shall evaluate its wastewater needs and state and federal funding opportunities and apply annually to at least one state or federal grant program for wastewater projects and connections.	Not Achieved	In February 2012, the Legislature included the first \$50 million of the \$200 million Mayfield grant in the state budget. This was partially in response to the County's submission of its resolution #77-2012 which the State may not consider applying for a State/Federal Grant. Further, in May 2012, the Governor signed enabling legislation to issue state bonds to fund the grant. Of the \$50 million provided, \$20 million will be provided to Islamorada and \$30 is to be used by Monroe County toward the completion of the Cudjoe Regional Wastewater System. As of late August 2012, the grant agreement is being drafted by FDEP. The County communicated to Senator Nelson's office its interest in adding the Cudjoe project to the possible reauthorization of WRDA (source of funds for the Florida Keys Water Quality Improvement Program). The Congress opted not to take up WRDA reauthorization so, in effect, there was no program to which the County could apply.	A \$50 million bond was authorized in the 2012 legislative session, \$30 million of which was designated for Monroe County. A capital financing plan is still needed to place Monroe County on the fundable list for a Clean Water State Revolving Fund (CWSRF) loan.		July 1, 2012	
26	6. By July 1, 2011, Monroe County shall develop and implement local funding programs necessary to timely fund wastewater construction and future operation, maintenance and replacement of facilities.	Not Achieved (deadline extended by Administration Commission- see next item)	The County is finalizing wastewater projects but requires \$150 million to develop, construct and implement the Cudjoe Regional Wastewater System. The Cudjoe System is the final system to be implemented by Monroe County.  In July 2012, the BOCC levied assessments for the Cudjoe Regional Wastewater system on both inner and outer islands areas. The assessments will total \$40 million of the \$150 million needed. Additionally, an unobligated \$20 million balance was identified in the Infrastructure Sales tax fund (Fund 304) which has been earmarked for use on the Cudjoe Regional projects. Further, the BOCC authorized a referendum to extend the infrastructure sales tax until 2033 with the proceeds to fund wastewater projects in the County until those projects are fully funded (approx. total of \$60 million). The residents of Monroe County will vote on the infrastructure sales tax in November 2012.			July 1, 2011	

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		ACSC Status	Monroe Comments	Department of Environmental Protection Comments	Department of Health Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-20.140, F.A.C.</b>	<b>Achieved/ Not Achieved</b>					
27	<b>(5)(b) Wastewater Implementation.</b>						
28	By February 29, 2012, Monroe County shall submit a financial plan demonstrating local funding programs necessary to timely fund wastewater construction and future operation, maintenance and replacement of facilities. (January 18, 2012 Administration Commission Action)	Achieved	Draft financial plans were submitted to DEO for review on the 14th and 27th of February 2012. The latter was submitted in response to telephone feedback from Tallahassee and included three funding scenarios using local resources. No response was received to the latter submission since events surrounding inclusion of the first \$50 million appropriation of the "Mayfield" grants were in process. Finalization of the draft financial plan was overtaken by events at the legislative session when the legislature included the first year of the Mayfield grants in the budget and earmarked them to jump start the Cudjoe Regional & Islamorada projects.	The Capital Financing Plan for the Clean Water State Revolving Fund loan has not been submitted.		February 29, 2012	
29	7. By December 1, 2013, the County shall provide a report of addresses and the property appraiser's parcel numbers of any property owner that fails or refuses to connect to the central sewer facility within the required timeframe to the Monroe County Health Department, Department of Environmental Protection, and the state land planning agency. This report shall describe the status of the County's enforcement action.					December 1, 2013	
30	<b>(5)(c) Wastewater Project Implementation.</b>						
31	<b>1. Key Largo Wastewater Treatment Facility. Key Largo Wastewater Treatment District is responsible for wastewater treatment in its service area and the completion of the Key Largo Wastewater Treatment Facility.</b>						
32	a. By July 1, 2012, Monroe County shall complete construction of the South Transmission Line;	Achieved				July 1, 2012	
33	b. By July 1, 2013, Monroe County shall complete design of Collection basin C, E, F, G, H, I, J, and K;	Achieved				July 1, 2013	
34	c. By July 1, 2012, Monroe County shall complete construction of Collection basins E-H;	Achieved				July 1, 2012	
35	d. By December 1, 2011, Monroe County shall schedule construction of Collection basins I-K;	Achieved				December 1, 2011	
36	e. By July 1, 2011, Monroe County shall complete construction of Collection basins I-K;	Achieved				July 1, 2011	
37	f. By July 1, 2011, Monroe County shall complete 50% of hook-ups to Key Largo Regional WWTP;	Achieved (late)	See below (row 40)	According to information provided by KLWTD, 74% of EDU have been connected		July 1, 2011	
38	g. By July 1, 2012, Monroe County shall complete 75% of hook-ups to Key Largo Regional WWTP;	Achieved	As of the September 2012, 11,525 EDUs out of a total of 15,300 EDUs were connected to the Key Largo central wastewater system (75%).	Substantially Achieved - According to information provided by KLWTD, 74% of EDU have been connected	Good progress has been made toward this goal. The MCHD has issued 8000 abandonment permits. 4500 have been completed.	July 1, 2012	
39	h. By July 1, 2013, Monroe County shall complete all remaining connections to Key Largo Regional WWTP.					July 1, 2013	
40	<b>2. Hawk's Cay, Duck Key and Conch Key Wastewater Treatment Facility.</b>						
41	a. By July 1, 2012, Monroe County shall complete construction of Hawk's Cay WWTP upgrade/expansion, transmission, and collection system;	Achieved				July 1, 2012	
42	b. By July 1, 2013, Monroe County shall complete construction of Duck Key collection system;					July 1, 2013	
43	c. By July 1, 2012, Monroe County shall initiate property connections to Hawk's Cay WWTP;	Achieved	Property connections were initiated. As of September 2012, 1,051 EDUs of the potential 1,454 EDUs in the Duck Key/Conch Key system were connected (72%).	Achieved. 31.5% of all EDU's have already been connected to Hawk's Cay WWTP.	The connection process has been initiated.	July 1, 2012	
44	d. By December 1, 2012, Monroe County shall complete 50% of hook-ups to Hawk's Cay WWTP;	Achieved	Hook-ups are 72% complete. As of September 2012, 1,051 EDUs of a the 1,454 EDUs in the Duck Key / Conch Key system were connected. Additionally, first phases of the Duck Key expansion have been asked to start connecting.		Good progress is being made toward this goal.	December 1, 2012	
45	e. By July 1, 2013, Monroe County shall complete 75% of hook-ups to Hawk's Cay WWTP; and					July 1, 2013	
46	f. By July 1, 2014, Monroe County shall complete all remaining connections to Hawk's Cay WWTP.					July 1, 2014	



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		ACSC Status	Monroe Comments	Department of Environmental Protection Comments	Department of Health Comments	Rule Completion Date	Comprehensive Plan Amendment Required
Line #	<b>WORK PROGRAM REQUIREMENTS PURSUANT TO RULE 28-20.140, F.A.C.</b>	<b>Achieved/ Not Achieved</b>					
47	<b>3. South Lower Keys Wastewater Treatment Facility (Big Coppitt Regional System).</b>						
48	a. By July 1, 2012, Monroe County shall complete 75% hookups to South Lower Keys WWTP; and	Achieved	Hook-ups are 77% complete. As of September 2012, 1,359 EDUs of a potential 1,720 EDUs were connected to the Big Coppitt system (79%).	Achieved. 79% of EDU's have been connected.		July 1, 2012	
49	b. By July 1, 2013, Monroe County shall complete all remaining connections to the South Lower Keys WWTP.					July 1, 2013	
50	<b>(5)(c) Wastewater Project Implementation.</b>						
51	<b>4. Cudjoe Regional Wastewater Treatment Facility.</b>						
52	a. By July 1, 2011, Monroe County shall complete planning and design documents for the Cudjoe Regional Wastewater Treatment Facility, the Central Area (Cudjoe, Summerland, Upper Sugarloaf) collection system and the Central Area Transmission Main;	Achieved				July 1, 2011	
53	b. By October 1, 2012, Monroe County shall initiate construction of Wastewater Treatment Facility, Central Area Collection System and Central Area Transmission Main;		FKAA issued RFPs for the treatment plant and central island (Upper Sugarloaf, Cudjoe, & Summerland Keys) in September 2012, with a proposal opening date in late October 2012.			October 1, 2012	
54	c. By July 1, 2014, Monroe County shall complete construction of Wastewater Treatment Facility, Central Area Collection System and Central Area Transmission Main; *		Completed design of the treatment plant and inner islands collection & transmission system is expected by December 2014, with the treatment plant ready to accept wastewater flow by January 2015. The collection system will be ready to accept flow by March 31, 2015.			July 1, 2014	
55	By January, 2012 Monroe County shall complete design and planning for Outer Area (Lower Sugarloaf, Torches, Ramrod, Big Pine Key) Collection System and Transmission Main.**	Not Achieved	FKAA issued a design-build RFP in September 2012, for the Outer Island collection & transmission system with a proposal opening date in November 2012. Design will be submitted to FDEP as completed in early 2013.	Not achieved. The Outer Islands are partially designed. FKAA anticipates receiving design-bid-build proposals in late November 2012 and they expect to have a contract signed in December 2012. Construction is anticipated to commence in the middle of 2013.		January 1, 2012	
56	d. By February 1, 2012, Monroe County shall initiate construction of Wastewater Treatment, Outer Area Collection System and Transmission Main; *	Not Achieved	Construction schedule will be updated as the design packages become available as part of the design-build process in early 2013. Actual construction start is expected in the 2nd quarter of CY 2013.	Not achieved. See comments on item #55, above.		February 1, 2012	
57	e. By February 1, 2015, Monroe County shall complete construction of Outer Area collection and transmission main;					February 1, 2015	
58	f. By July 1, 2014, Monroe County shall initiate property connections – complete 25% of hook-ups to Cudjoe Regional WWTP;					July 1, 2014	
59	g. By July 1, 2015, Monroe County shall complete 50% of hook-ups to Cudjoe Regional WWTP; and					July 1, 2015	
60	h. By December 1, 2015, Monroe County shall complete remaining hook-ups to Cudjoe Regional WWTP.					December 1, 2015	
61	<b>(5)(d) Stormwater Treatment Facilities.</b>						
62	1. By July 1, 2011, Monroe County shall evaluate and allocate funding for stormwater implementation. Monroe County shall identify any funding in the annual update to the Capital Improvements Element of the Comprehensive Plan.	Not Achieved	The proposed County budget for FY 2012/13 includes approximately \$600,000 for in house street drainage improvements. Specific projects are not identified. Projects will be identified as a part of the overall review of County roads.	No information provided to DEP		July 1, 2012	HB 7207 removes the requirement that the capital improvement schedule be an amendment to the comprehensive plan.
63	2. By July 1, 2011, Monroe County shall apply for stormwater grants from the South Florida Water Management District.	N/A	No stormwater grant funding is available for FY13 from the South Florida Water Management District. No grants were awarded in FY12 (no funding available). As such, the County did not apply for any SFWMD grants.			July 1, 2011	
64	3. By July 1, 2011, Monroe County shall complete Card Sound Road stormwater improvements.	Not Achieved	This project remains on hold pending determination of scope and permitting requirements. This proposed project was identified in the master plan in 2001 and identified in all subsequent years for completion. Its cost- benefit ratio should be re-evaluated.			July 1, 2011	

\* Corrects scrivener's error in Rule 28-20.140 (5)(c)4.c. & d., F.A.C.

\*\* Omitted in final adopted rule. When rule is amended, rule will be modified to reflect this task.