

December 2017

HURRICANE IRMA

AFTER ACTION REPORT

City of Naples

Report, Response & Recommendations



CITY OF NAPLES FIRE-RESCUE DEPARTMENT

Fire-Rescue Headquarters
355 Riverside Circle - Naples, FL. 34102
Phone: 239-213-4900
Pete DiMaria, Fire Chief



December 18, 2017

Honorable Mayor and City Council,

The After-Action Report is a process used by emergency responders to capture the lessons learned from past successes and failures, with the goal of improving future performances. This is an opportunity for reflection on the event so that the success or failure, and ultimate improvements can be made. The After-Action Report has been compiled based upon feedback from City of Naples employees, emergency operations staff, department directors and some community leaders who played key roles during the response and recovery efforts of Hurricane Irma.

On September 10, 2017, the City of Naples experienced the effects of a major hurricane in our area. The high winds and heavy rain of a hurricane wreaked havoc and for the first time in nearly a decade, the City of Naples faced the threat of a major hurricane making a direct impact to our community. The City of Naples community, personnel and partnering agencies prepared for the storm and the challenging response and recovery to come. In true Naples form, the response and recovery exceeded expectations; the assistance provided was invaluable to our community, residents and visitors. Naples has recovered quickly and set an example for other communities faced with similar circumstances.

Naples Fire-Rescue is privileged to present the following After-Action Report and would like to thank City Council, City Manager Moss, Assistant City Manager Reinke, the Department Directors, City of Naples employees and all the Fire-Rescue personnel that contributed key roles in the incident and producing this report.

All the Best,

Pete DiMaria, Fire Chief



CONTENTS

Executive Summary 4

The Hurricane 5

Preparedness 5

Naples Emergency Operations Center (NEOC) 12

Response & Recovery 14

Issues & Recommended Solutions 24

Conclusions 31



EXECUTIVE SUMMARY

The National Incident Management System, developed by the U.S. Department of Homeland Security and regarded as the most comprehensive national approach to incident management states that “Preparedness is essential for effective incident and emergency management and involves engaging in a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action to achieve and maintain readiness to respond to emergencies”. The complexity and magnitude of Hurricane Irma have provided the City of Naples an opportunity to analyze the performance of the City’s emergency services in a manner that is difficult to simulate in even the most realistic training environment. The most common factor of every emergency requires the responding agencies to learn and gain knowledge from the event to be more prepared for the next occurrence.

This After-Action Report will help all stakeholders understand the continuous effort to build upon the strengths within the City’s organization and identify needed areas for improvement. This report reflects an all-inclusive and comprehensive strategy which compiled and analyzed information that was gathered from employee feedback, multiple debriefing meetings, a survey sent to key personnel and direct comments about response and recovery efforts in each field of expertise. Staff also reviewed the City’s Comprehensive Emergency Management Plan, numerous event planning documents, ICS forms, training logs, and other records for consistency with the actions taken during this emergency event.

The analysis, findings, and recommendations presented in this After-Action Report are intended to improve the organization’s ability to

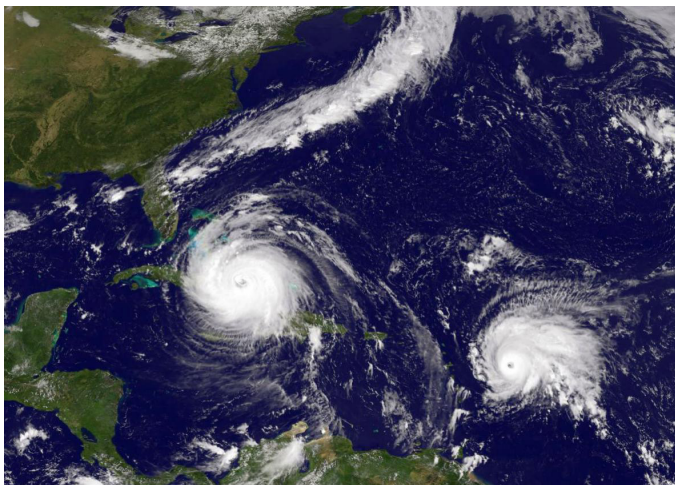
respond and recover from future disasters. The recommended solutions focus on enhancing the City’s emergency plans and overall strategies for emergency management, while addressing strategic, operational, procedural and technological components of response and recovery efforts. Conducting the review of a major incident provides the opportunity to identify and reinforce effective approaches taken and identifies those areas where improvements will achieve optimal performance during any future events.



The City’s management staff and City Council acknowledges and offers sincere appreciation to City stakeholders, Collier County, Bureau of Emergency Management, all partnering agencies and their staff, the restaurateurs and citizens who volunteered and donated their assistance to the recovery effort and the Naples Mayor and members of City for their assistance and support. Staff also hopes that the recollection of the hurricane event and potential devastation and destruction from a hurricane inspires everyone in the City of Naples to maintain a commitment to preparedness and a dedication to involvement in the response which is critical to the success of the community in facing future disasters.

THE HURRICANE

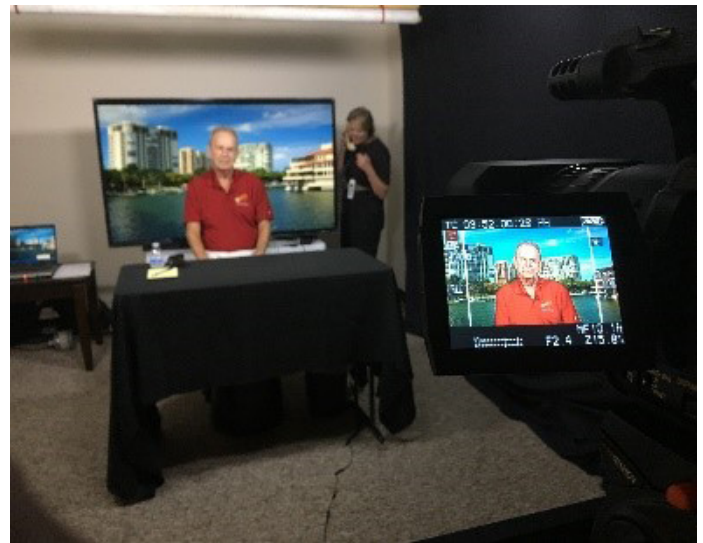
Hurricane Irma developed on August 30, 2017 near the Cape Verde Islands, from a tropical wave that moved off the west African coast three days prior. Under favorable conditions, Hurricane Irma rapidly intensified shortly after formation, becoming a Category 2 hurricane on the Saffir–Simpson scale within a mere 24 hours. The storm became a Category 3 a few days later, but then fluctuated between a Category 3 and Category 2 as the eyewall went through a series of replacement cycles. On September 4, 2017 Hurricane Irma rapidly intensified and became a Category 5 in the early morning of September 6th. Later that day, Hurricane Irma reached its peak strength with sustained winds of 185 mph and is the first storm on record to maintain its Category 5 rating for such an extended period. Hurricane Irma weakened to a Category 4 after another eyewall replacement cycle but attained a Category 5 for a second time before making landfall in Cuba. The storm again weakened due to land interaction, but then re-intensified to a Category 4 as it crossed warm waters of the Straits of Florida, before making landfall in the Florida Keys with sustained winds of 130 mph.



On September 10, 2017, Hurricane Irma impacted Southwest Florida and the Naples

area as a Category 3 hurricane and one of the most powerful hurricanes to hit the area since Hurricane Donna, 57 years ago to the day. The City of Naples and its partnering agencies, including Collier County Emergency Management Bureau, worked together to prepare for, respond to, and recover from the hurricane event. The emergency management collaboration and work related to the storm event, which occurred over an extended period of time, required the cooperation of the City of Naples, Collier County, the State of Florida and the Federal Emergency Management Agency (FEMA), and other community public, private, and non-profits partners.

PREPAREDNESS



In the week leading up to the hurricane, the staff monitor the hurricane's path and prepared for a potential impact in Southwest Florida. Fire-Rescue updated Department Directors and City Management at least twice daily by evaluating multiple, well-regarded reports, including National Oceanic and Atmospheric Administration (NOAA), Weather Underground, The Weather Channel website, and the Naval Research



HURRICANE IRMA

Laboratory – Tropical Cyclone website. The emailed updates began on September 3, 2017 and included the hurricane advisory, tracking reports (forecast cone), hurricane intensity and estimated arrival forecasts. As the hurricane approached, the Activation Levels described in the City’s Emergency Management Plan were in updated.

On September 5th, management staff participated in a conference call with Collier County Emergency Management and then proceeded to formalize a plan for the potential landfall of a major hurricane event. The intension of the preparedness was to plan and prepare for the worst and hope for safety for all citizens, businesses and visitors.



Like all departments, Fire-Rescue conducted their own meeting with command staff to formulate the staffing, sheltering, equipment, and needed logistics for the hurricane event. The Fire Chief appointed four liaisons and Naples Police appointed two liaisons to work in the Collier County Emergency Operation Center. The six-member team was assigned for the duration of the storm. Naples staff, now aware of the potential catastrophic event and the ability of city buildings to withstand winds and storm surge, formulated a plan a plan to establish a backup emergency

operations center away from the EOC at the Police-Fire Building on Riverside Circle. Fire-Rescue, Police and Technology Services worked together to locate and determine an appropriate and hurricane safe structure to establish a back-up emergency operations center. The new Hyatt House was selected as an acceptable sight. A meeting room was reserved and equipped with fiber optic cable, computer work stations, telephones, television, charging stations, a portable generator, and other required supplies.

Hurricane Irma became a strong Category 4 hurricane on September 4, 2017, later that day, Governor Rick Scott declared a State of Emergency for Florida and placed 100 National Guardsmen on-duty to assist with preparations. Throughout Florida the tolls were suspended to encourage evacuations on September 5th.



Hurricane Irma was a powerful Category 5 storm with a forecast cone leading directly towards Southwest Florida on September 7th. The Naples Emergency Operations Center (NEOC) was activated and staffed. The first operation period activities included directives such as, personnel ensuring that their respective City building, and vehicles remain in a state of readiness ahead of the storm. All City Departments analyzed their needs ahead of the storm and made requests for goods or services through the Incident Command System (ICS). Departments were reminded as to the importance of familiarity and use of appropriate ICS forms for storm related activities. Directors directed preparation for employee sheltering at designated facilities. Each operational period created by the incident command team directed the City to ensure that their perspective

departments, personnel, equipment and emergency plan was set in place and ready as the storm approached.

Communications, both internally and externally, provided the necessary information for the workforce and the public. Externally, CodeRed, the system used to send voice messages telephonically and through text, was activated to provide information about preparedness, landfall, evacuations, and return to the city. Information was also provided through phone, email, text, social media, and interviews with news media. Email blasts citizens and organizations was well-received as an effective means of communications before, during, and after the storm. The City Manager began the email communications pre-storm and continued to update the community via this platform throughout the event and post-storm recovery. Four days before landfall, the City established a dedicated telephone number,

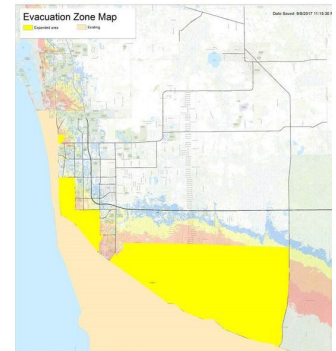


213-IRMA, to respond to hurricane based questions, manning it from 8:00 am to 8:00 pm., seven days per week. Because of the Finance's department's pre-established phone queue, primary

responsibility of the line was located there and shared throughout City Hall. After hours, the incoming calls were transferred to the NEOC. Written FAQs were developed from these phone calls regularly and distributed by the Incident Command to designated employees.

On September 7, 2017, Collier County Emergency Management and County Government released

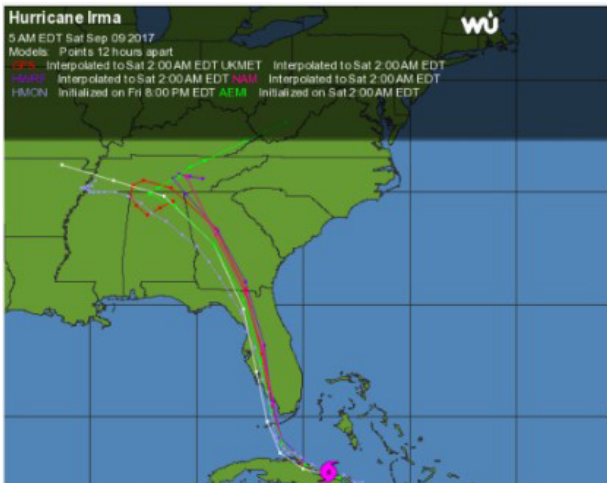
mandatory evacuations to all areas west and south of US 41 including Goodland, Everglades City, Chokoloskee. Six general population shelters opened, and one special needs shelter opened to house



the displaced evacuees. On September 9, 2017 the Collier EOC expanded the evacuation zones east to Airport-Pulling Road, north to Radio Road from Airport to Santa Barbara to Rattlesnake Road. The expanded evacuation caused for the need to expand the shelters and five more general population shelters were opened. Each time Collier EOC issued a press release, the Naples EOC shared the information. Multiple Fire Stations were evacuated due to either the location or ability to withstand the intensity of the hurricane. Personnel from the City of Naples Fire Station 1, North Collier Fire Stations 10, 42, 43 and 44. Greater Naples Fire Stations 22, 23, 60, 61 and 90 were all moved to a safer location to ride-out the hurricane. Naples units remained within the city limits. Declarations of a State of Emergency from the State of Florida, Collier County and the City of Naples were disseminated appropriately to ensure cost recovery efforts for post-storm actions were in place.



HURRICANE IRMA



By September 9, 2017, all hurricane forecast tracks were agreed that the likely landfall would be SW Florida. Final preparations were being taken by all personnel. Some last-minute decisions had to be made as the storm surge forecast changed drastically in the waning hours before impact of the storm. Command Staff at the Naples EOC initiated morning and evening phone conferences to keep all personnel advised of the impending situation. Personnel at the Naples EOC moved to a 24-hour activation starting 0800, September 9, 2017. Staffing at the Naples EOC was fully activated for next 168 hours. This extended

emergency activation required the prolonged cooperation of City staff and the execution of emergency plans, procedures, and protocols to meet the

needs of the community before, during and after the storm.



During the late afternoon of September 10, 2017, squalls from Hurricane Irma impacted the city.

Hurricane Irma made a second landfall in Collier County as a strong Category 3 storm with the eyewall heading for the Naples. Sustained winds approached 100 mph and Naples Airport reported a wind gusts of 142 mph. The sustained hurricane-force winds lasted for over 6 hours and battered the community. High winds from the storm resulted in thousands of downed trees and power poles and the fallen trees and limbs blocked major roadways,



blocked emergency access points, impaired electrical infrastructure. The nearly 12 inches of rain that fell in those six hours caused flooding throughout the area.

Eerily, water in the Naples Bay and canals were pulled toward the Gulf, leaving only small amounts of water and muck for miles. While the initial forecast predicted storm surge of 5 to 15 feet, the city experienced about 4 ½ foot surge. The hurricane produced unprecedented storm tides and that together with wind produced extremely strong waves in the Gulf of Mexico. These waves damaged Naples Pier and the coastline. The powerful tides flooded areas of Naples including historic landmarks such as Tin City and Kelly's Fish House. The rain, tides and storm surge caused lakes, ponds and canals



to overflow into the streets, which damaged and destroyed seawalls and infrastructure. The hurricane caused widespread power outages affecting thousands of Florida Power & Light customers. Nearly 90% of electric customers within the City of Naples lost power immediately following Hurricane Irma, many of whom experienced extended outages for seven days or more following the storm.



HURRICANE IRMA

Gordon Drive



Before



After

One of thousands of
downed trees



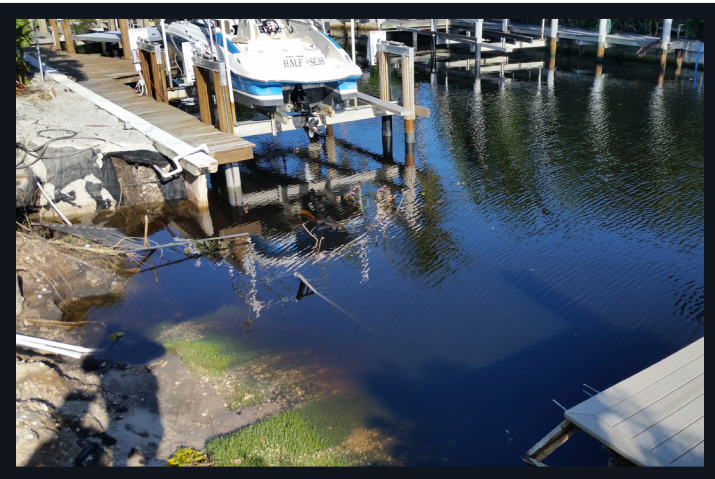
Dock damage at Tin City



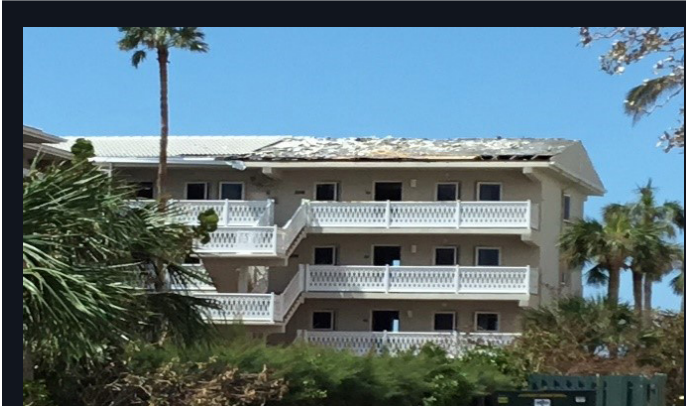
Boat house coll



Palm falls from wind, damages roof



Erosion caused seawall & dock damage



Carriage Club roof damage



Roof tiles blown off from high winds



collapse & damage



Damaged & partially sunk vessel



THE NAPLES EMERGENCY OPERATIONS CENTER (NEOC)

The Naples Emergency Operations Center (NEOC) served as central command and control for the effective coordination of disaster management functions. NEOC is located at 355 Riverside Circle at the Naples Police and Fire Headquarters Building. All essential personnel for Incident Command were notified and operating with ICS system' functioning 24 hours a day starting 0800, September 9, 2017. NEOC was staffed throughout the event and through the storm recovery operational periods. NEOC implemented the Incident Command System structure and designated a Unified Command to oversee the operation. This extended emergency activation required the prolonged cooperation of the City's Department Directors and the orderly, timely execution of the City's emergency plans, procedures, and protocols to meet the needs of the Naples community before, during and after the storm. Hurricane Irma served as the first incident that involved this level of full integration of City personnel and governance of the city over multiple operation periods. This integration allowed for much greater coordination and efficient information flow during throughout the emergency. The emphasis was placed on the core functions of the emergency management system including: the collection, gathering and analyzing of data; decision making that protected life and property; maintaining continuity of government operations; and communicating critical operational information with Collier Emergency Operation Center and all concerned agencies and individuals. NEOC facilitated coordination of the information, personnel, supplies, equipment, and other required resources and was able to successfully execute the established emergency plans and protocols.

The Incident Management Team included City Manager Bill Moss, Assistant City Manager Roger Reinke, Police Chief Thomas Weschler, Fire Chief Pete DiMaria, Deputy Fire Chief Mike Nichols, Utilities Director Bob Middleton, Community Services Director Dana Souza, Streets and Stormwater Director

Gregg Strakaluse, Building Director Craig Mole', Technology Services Director Mark Jackson, Human Resources Director Denise Matson, Dock Master/ Code Enforcement Director Roger Jacobsen, Finance Director Ann Marie Ricardi and David Fralick, Communication Manager. The Incident Command Team included many Naples employees functioning in a multitude of positions, often outside of their normal duties with in the incident command structure.

The Naples Emergency Operations Center became operational with assistance of Technology Services and Fire-Rescue personnel. The Incident Command structure was established in the first operational period and indicated on each Organization Assignment List



(ICS 203) throughout each operational period. Clear leadership in the Naples Emergency Operations Center was recognized very early in the incident with the Unified Command implementation during the first operational period. This established proper authorization and assumption of command in the City of Naples. All determinations were made under the Unified Command structure which enabled the City to carefully maneuver through emergency and political decisions.

COMMUNICATIONS

The Unified Command was able to deliver situational briefings to all City personnel on a daily schedule. The briefings reviewed updates to the operation, daily operational strategies, goals, objectives and situational safety awareness. The 12-hour daily operational period was identified as a successful approach during the initial response period with emergency responders working the 24-hour work periods. The operational work periods were discussed and altered as needed throughout the incident. Public information personnel worked diligently in NEOC to disseminate critical information to the public about the status of the emergency, the measures taken by response personnel, management of the emergency, conditions within the City and in Collier County, and the progress of response and recovery efforts. This consistent and unified information about the evacuation and the progress of response efforts to the public and media partners proved to be very positive and needed for the community. In addition to the above-mentioned communications, the hurricane hotline (239-213-IRMA) was very successful and validated need for supplying the community with public information. One of the identified issues that will be discussed further, is the need for the dissemination of information when there is no power, cell towers, internet or television.

COLLIER EMERGENCY OPERATIONS CENTER

The City's Emergency Plan identifies the need for a City of Naples liaison at the Collier County Emergency Operations Center. City personnel assigned to the Collier County Emergency Operations Center (EOC) proved to be a vital resource. These employees from Police and Fire-Rescue functioned as liaisons and operated with full authority of the NEOC Incident Command. Having access to vital information on WebEOC and the ability to forge relationships with the other County and private industry personnel

assigned to the EOC enabled City of Naples requests to receive immediate attention.

Furthermore, the liaison provided beneficial information as NEOC worked constantly to ascertain percentage of FPL restoration numbers, as the incident commander needed to monitor the progression. Additionally, they were effective in working with NEOC and FPL on missions to clear the way for restoration. NEOC had multiple missions to remove large downed trees either entangled or on wires. The City Liaisons were able to physically go to the FPL desk and inform them of the mission, determine if



there were live wires or when the power was being turned back on, and communicate the information with NEOC to coordinate the operation. These missions allowed access for FPL and other power restoration assets.

The City's liaison made further contributions to NEOC by fulfilling requests that were made to the Irma hotline for welfare checks; for additional generators for lift stations; working with the County Parks and Parkways to obtain information on Vacuum Trucks and additional equipment; the delivery of water, supplies and tarps; and to facilitate the communication of information to residents that were relocated to the shelters.



LOGISTICS

While in the hurricane recovery mode, provisions for city employees was required. Meals were provided to City employees at a central location to ensure that the workforce was fed and prepared to concentrate on the overall mission from NEOC. In the absence of a contracted vendor, these meals were provided from various local vendors that donated their service and the food from their restaurants. The meal plans and organization of food service was undertaken by several different departments including Community Services, Human Resources, Fire-Rescue and Building Services. A different team of employees were setting up and serving each day, followed by the cleanup of the River Park Community Center. This plan to have and serve food for City employees worked well during the weekdays but became more challenging



during the weekend. The logistics section of the incident command structure was an area that needs improvement. Logistics requirement, at times, were accomplished by Incident Command. Although handled efficiently, this could have reduced overall effectiveness.

OVERALL

Naples Emergency Operations Center was a very successful operation. There were a few minor exceptions that are identified in the “Issues and Solutions” section, but these items ultimately had little effect on the operation. Department Directors or Deputy Directors staffed NEOC and a strong

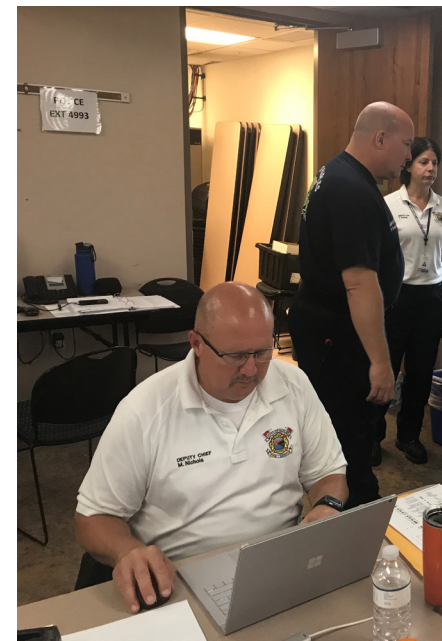
presence and ability to make quick decisions from the correct personnel allowed the NEOC staff to be proficient in their tasks. The Unified Command and the Operations Sector were prominent throughout the incident and often handled all areas and issues. The continuity of leadership and decisive actions proved to be an overall asset to the operation.

RESPONSE & RECOVERY

Following the passing of Hurricane Irma, post storm operations included response plans with three distinct phases. The first phase is the Immediate Emergency Phase. During this phase operational plans are set in place to address the immediate needs as it relates to life safety and incident stabilization. The second operational phase is the Short-Range Restoration Phase, which includes restoration of critical services, accessibility, recovery resources, surveys, damage assessment and debris removal. The third phase is long term recovery and includes mitigation projects and disaster reconstruction.

IMMEDIATE EMERGENCY PHASE

Naples Incident Command obtained information from the National Weather Service and considered options to initiate the Immediate Emergency Phase. Due to safety concerns, it was determined that operations would begin at 0700, Monday September 11, 2017, after first light and with diminishing winds. The initial goal of this operational phase was to provide access to all areas of the City as soon as possible for the emergency response of Fire-Rescue, Police and EMS. It is critical to life safety that search and rescue personnel have quick access to potential





victims that may be missing, stranded, entrapped or injured during or after the storm. To meet this objective,

Cut and Push teams were organized with resources from Naples Fire-Rescue and with personnel and equipment from the Utilities Department, Community Services and the Streets and Stormwater Department. Fire-Rescue's emergency plan sectors were developed for events like Hurricane Irma. These emergency plan sectors were used to plan and carry out strategic road clearing efforts. Predetermined routes within these sectors were programmed into the newly implemented Crisis Tracks software. This software allowed Incident Command to monitor progress of the crews in opening the primary and secondary routes. As the Cut and Push teams forced their way through the debris, they opened the major roadways first, which ensured access to and from Naples Community Hospital and provided access to personnel responsible

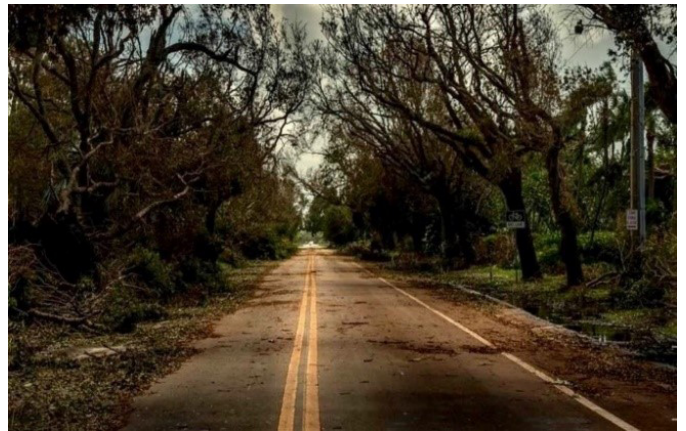
for restoration of critical services.

Incident stabilization is the major concern in the Immediate Emergency Phase. Simply stated, the incident stabilization phase is the prevention of injuries, beginning restoration of critical services, environmental protection and property conservation. Stabilization of the incident is essential prior to moving into the Short-Range Restoration Phase of recovery and is achieved by early

identification of existing or potential hazards. As these hazards are identified, corrective measures are taken

to mitigate each issue. These hazards included arching power lines, waste water leaks, trees falling on houses and law enforcement /security issues.

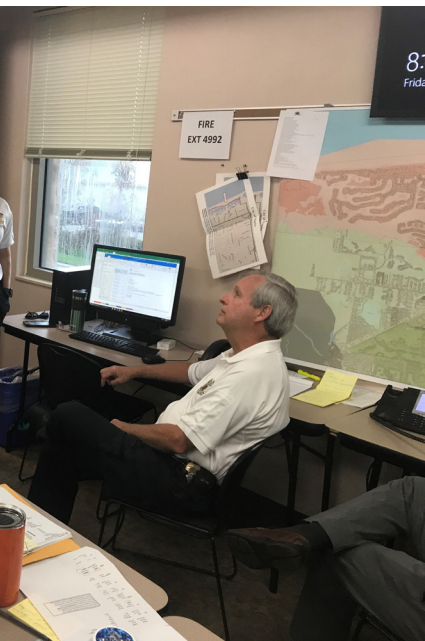
Law enforcement plays a key role in ensuring post storm recovery begins safely by helping to facilitate road closures for hazards, curfew enforcement and increased neighborhood patrols. This effort reduces the risk of injury for personnel and the public, by eliminating access to high hazard areas and directing



safer alternate routes. Nighttime curfews were put in place to assist law enforcement in the protection of property and remove potential safety issues created by the public traveling in areas that have not been cleared of hazards.

SHORT RANGE RESTORATION PHASE

With incident stabilization established, the focus of Unified Incident Command turned toward restoration of public safety (full 911), completion of preliminary damage assessments and the identification of issues that would inhibit restoration of critical services. Paramount to this was the effort to restore power and other public utilities, road clearing and the use of public facilities. NEOC personnel utilized data received from teams working in the field to prioritize the issues and focus on response in the most critical areas. With personnel from the City Manager, Utilities, Streets and Stormwater, Community Services and Building Departments staffing in the NEOC, the ability to direct issues to the proper departments for





HURRICANE IRMA



mitigation efforts were seamless.

The routing of issues included contacting Collier County EOC and the City’s staff liaison. Naples

personnel staffing the City desk communicated powerline issues to the FPL liaison who was embedded in the Collier EOC. Potable water, reclaim water and waste water issues that were reported to the NEOC were directed to the Utilities Department for recognition and prioritization. Streets and Stormwater responded to sign and signal issues while Community Services and Fire-Rescue worked with expanded Cut and Push teams to allow access to secondary roads. Resources were diverted to focus on identified areas to assist whenever needed to speed the recovery of public utilities.

Throughout the incident, many called Naples and Collier County EOC seeking information about members of their family who sheltered in place, many of whom were elderly. Naples Fire-Rescue and Police responded to these requests. Welfare checks were also conducted in the nursing homes within the City.

Short-range concerns for both horticultural and construction and demolition debris were focused on keeping the debris piles from impeding normal traffic patterns and to keep storm drains open and working. Naples CodeRED alerts and emails also advised residents and their contractors to place these debris piles on the right of way, not in the road nor blocking storm drains.

Crews working in Cut and Push teams were advised to keep this in mind as they pushed through the City. Additionally, they were instructed to look for tree “hangers and leaners”. The broken branches still connected to trees were dangerous and could fall easily. The removal of these “hangers and leaners”

was completed to remove potential injuries or damage should they fall.

The Utilities Department was faced with multiple challenges post-storm. The post-storm objectives of the Utilities Department were to: ensure the Water and Wastewater Treatment Plants were operational and functional; to assist with “cut and push” operations; to restore the potable water distribution system; to provide emergency power to the City’s 123 sewer pump stations during wide spread FPL outages, to maintain City vehicle fuel supply; and collection and disposal of the construction & demolition (C&D) debris.

Shortly after the eye of the storm passed on September 10th, the Water Treatment Plant observed a reduction of system water



pressure, which is indicative of water main and water service breaks caused by uprooted tree roots. The Utilities Department issued a precautionary boil water notice to all residents within the City’s water service area. The boil water advisory was issued as an abundance of caution, not because known pollution of the water supply. The objective was to restore water pressure to the critical use facilities (hospitals, health care centers, nursing homes, etc.) and undamaged sections of the system by isolating the areas of the distribution system that were damaged. The cut and push teams were fundamental to clear the areas of town to determine the extent of the damaged water system. Water Distribution crews were able to restore normal water pressure to Naples Community Hospital (NCH) by noon on September 11th, the first day of the recovery phase. The Utilities Department staff contacted five local underground contractors pursuant to their respective repair and maintenance contract to assist with repairs to the water system. By Friday September 15th, the water distribution system was fully restored



except for a small section of water main in a rear-yard easement on Harbor Drive. Approximately 15 water customers were without water due to an FPL power pole that fell during the storm, breaking the water main. On September 20th, FPL moved their pole allowing the City to repair the water main.

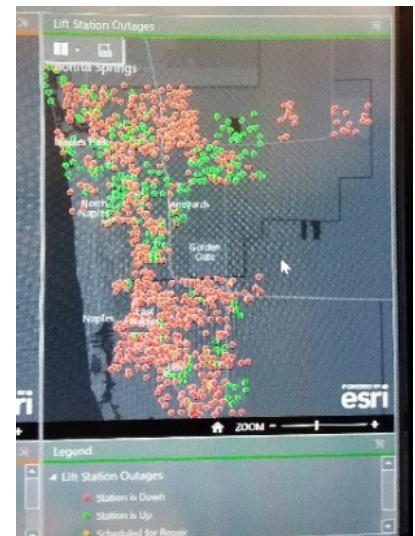
On Saturday, September 16th, Water Distribution crews began flushing the water distribution system to begin the process of rescinding the precautionary boil water notice. Collecting the required 80 water samples became a challenge due to the number of damaged sample collection stations. By Friday, September 22nd the precautionary boil water notice was rescinded for the City’s water distribution system. The City’s water distribution system extends beyond City limits, serving Collier County residents as well. Collier County rescinded the precautionary boil water notice for the County water system a few days prior to the City’s rescission notice. This created confusion among the County residents on the City’s water system resulting in numerous phone calls to the City requesting clarification.

In total, the City’s Water Distribution staff and the underground contractors responded to and repaired 40 City-side leaks (service lines, water main and valves, etc.) and notified approximately 130 customers of leaks on their side of the water meter.

Another post storm objective was created by the widespread FPL outage. All the City’s 123 sewer

lift stations lost power during the storm and were operating on emergency generator power post-storm. Fortunately, the volume of sewer was reduced by the evacuation of the City’s population and lack of open businesses. Utilities personnel developed a schedule to rotate or “daisy chain” portable generators from station to station to maintain station levels. Vacuum trucks were also used to supplement the daisy chain efforts. Additionally, all 51 of the City’s raw water wells lost power during the storm. Utilities Maintenance staff stationed portable generators at several of the wells to provide emergency power to ensure water supply to the Water Treatment Plant. The Utilities

Department purchased an additional 17 portable generators after the storm. This provided a total of 10 fixed generators and 26 portable generators. By September 25th, FPL power was restored to all 123 lift stations. Utilities Maintenance staff are evaluating the need for additional fixed and portable generators at the lift stations and in the wellfields.



The main objective of Equipment Services was to maintain vehicle repairs and provide an adequate fuel supply to City vehicle fleet. Despite the closure of the Tampa fuel port, a FEMA fuel contractor was dispatched to the City of Naples. This contractor was able to maintain fuel inventory in the Equipment Service 12,000-gallon gas tank and 12,000-gallon diesel tank. This contractor also delivered fuel to the water and wastewater plants and remote sites operating on emergency generators.

The objective of the Solid Waste Department was to assist with collecting the storm debris piles and



HURRICANE IRMA

transferring that material to the Baker Park temporary staging site. Progressive, the City’s horticulture collection contractor, provided up to three crane trucks to collect storm debris. By September 25th, Solid Waste staff began collecting the Construction & Demolition (C&D) material throughout the City. This material was disposed at the County landfill.

The Streets and Stormwater Department was confronted by many issues following Hurricane Irma. These issues include all signalized intersections that were inoperable, 40% of stop signs were knocked down, concrete sidewalks and asphalt pavements damaged, street lights damaged or down and not operating, stormwater pumps not working or blocked by debris, erosion of seawalls, collapse of stormwater outfalls and a concern to inspect all bridges for erosion of sand and material that support pilings.



Streets and Stormwater’s priority, as winds fell and daylight broke, was to get the stormwater pumps operating again and removed debris from the bar screens. This action was essential to eliminate localized flooding. By noon on the first day of recovery, the pump stations returned to full operation and began to draw down standing water from more than 11 inches of rainfall to the streets of Naples.

As the streets were cleared by the cut and push teams, the second order of business was to restore traffic signals on the major intersections. Staff installed portable generators starting on US 41, moving to Goodlette-Frank



Road and then the remaining City intersections. At the end of the first operational period, 50% of the

City’s 40 traffic signals were operating again. After the second operational period 80% functioning and by the end of the week, 38 of the City’s 40 signals were operating on generator power.

Streets and Stormwater personnel assessed damages to concrete sidewalks, curbing and asphalt pavement. There was damage to these areas because of tree uprooting and heavy equipment clearing during response. As cut and push crews cut away landscaping debris, staff painted orange warning paint as a precautionary measure for trip-and-falls, and to more easily identify areas needing repair. During bridge inspections, staff noticed isolated areas of seawall collapse. Staff also began to receive reports from NEOC regarding collapsed seawalls and significant erosion. Inspections followed and warranted an immediate assessment of all stormwater outfalls to



Moorings Bay. A water-side and aerial assessment was conducted and revealed that seawall collapse was not isolated to stormwater outfalls, but rather in a variety of areas in the bay. The assessment identified 39 damaged seawalls with eight being associated with public stormwater outfalls. As one of the priorities and during the first few operational periods, Streets and Stormwater personnel and NEOC worked to shore up and temporarily repair damages at two locations. Fire-Rescue was instrumental in clearing vegetation within public easements so that the contractor could gain access to the damage. Streets and Stormwater staff has continued to assess and prioritize emergency



shoring and repairs. Some repairs will need to be addressed in the Long-Term Reconstruction Phase and as mitigation projects.

Prior to the storms impact, the Building Department covered and elevated equipment and secured all vehicles. Staff prepared Crisis Track software for deployment post storm. Crisis Track is a new software that categorizes and lists all initial building damage in the assessment process. Building Department personnel started preliminary assessments in the Immediate Emergency Phase. In the Short-Range Phase, Building Department Officials worked to



complete the preliminary damage assessments and then begin work on secondary damage assessments to determine the monetary loss incurred within the City. Damage Assessment Teams were organized and deployed as soon as the streets were opened by the Cut and Push teams

in the five City Assessment Zones. By 1000 hours, Monday September 11th the initial assessment was completed in each zone. The following days were used as the 2nd Phase Assessment. In this phase, personnel

verified damage to affected structures including photographing damage and the re-evaluation of actual damage. All structures identified were revisited and the process of a more accurate assessment was conducted. By the second day of recovery, the Building Department was partially opened for regular business, including permit applications and permit processing. The operation within the Building was successful, which then allowed for Inspectors to be sent to Marco Island to assist their operation. This was a mutual prearranged operation to assist each municipality. By the end of the week, the Building Department had completed their mission and was fully reopened and ready to provide building inspection



services. Members of the Building Department served each operational period in the Naples Emergency Operation Center facilitating the needs of the incident requests of the Unified Command.

Community Services participated in many facets of the recovery effort, but one of the main objectives was to oversee the debris removal project. The City of Naples has an Interlocal Agreement with Collier County addressing a Debris Hauling Contract for post hurricane debris. The County agrees to assume responsibility for debris removal following a large storm event. Collier County can activate up to three contractors to remove debris from the City and unincorporated areas of Collier County. Once a contract is activated by Collier County, the contractor begins to mobilize sub-contractors to begin debris collection. For Hurricane Irma, Collier County activated its contract with AshBritt Environmental.



HURRICANE IRMA

The storm made landfall on September 10, 2017, but debris collection did not begin until September 22, 2017 due to the time required to mobilize of appropriate staffing and equipment and to set up temporary horticulture debris storage sites throughout the county. A consistent and meaningful daily quantity of debris removal did not begin until October 5, 2017. City staff recognized the time required for operators to obtain FEMA-required truck certification and to be paired with a monitor before undertaking collection efforts. The need for a better mobilization process is recognized.

Temporary debris storage locations were used by the City and is permitted by FDEP. The Baker Park site is approved for the storage of horticulture debris following a storm event and therefore was used as an



effective transfer site. Force-account equipment and contractors deposited debris at this site and AshBritt Environmental subcontractors removed the debris from the Baker Park site later when they were fully mobilized. Consideration should be given to secure a permanent transfer site within or closer to the City, potentially near the Solid Waste Facility. This would expedite debris removal from public ROW and facilitate a viable collection area for rapid removal. For Hurricane Irma, AshBritt contractors were required to dump debris loads at a Wiggins Pass Rd. site or to the County Landfill east of 951. These locations were at least 15-25 mile round-trip, depending upon the collection location. This travel time makes collection within the City limits somewhat inefficient, particularly in the early days of the Recovery/Response Period when few trucks are available.

The City should increase the fleet of clam trucks and cross-train operators to respond to another potential event. The City currently has three clam trucks. Doubling the fleet would improve the City’s ability to respond to minor events that are not declared as a Federal emergency and to major events. These trucks could be rotated in day-to-day operational



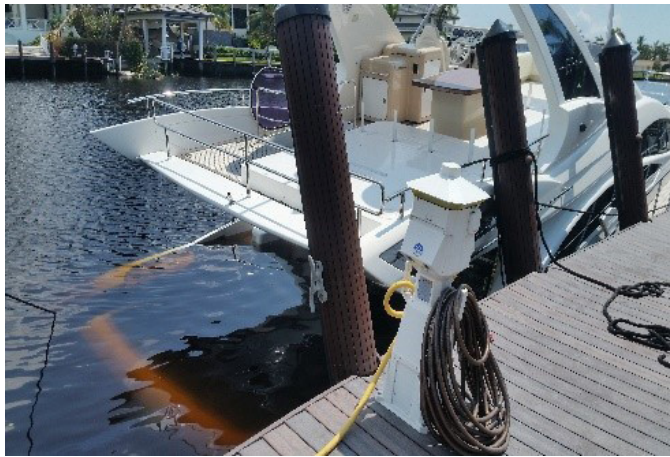
use to keep them active and maintained. The use of front end loaders with a grapple attachment could be another addition to the City’s heavy equipment. The City does not have any front-end loaders equipped with a grapple attachment. This heavy equipment attachment is highly efficient in removing debris when working with roll-off trucks or any container. The City should consider purchasing one large front-end loader with a grapple and bucket attachment. Also consider purchasing grapple attachments for all existing front-end loaders and tractors.

The overall debris removal efforts, although delayed in starting, seemed to get accomplished efficiently and quickly. Other than the debris removal, Community Services personnel assisted with staffing the Naples Emergency Operation Center, cut and push teams, clearing and cleaning the parks, operating heavy



equipment, and providing meals to operational personnel. The River Park Community Center was a Point of Distribution for water and providing day care for City employees, so personnel throughout the City could accomplish the goals of recovery.

The Harbor Master initiated inspections of all marinas pre-storm and focused on educating the dock keepers and boat owners on proper securing techniques. This was imperative to not only protect the vessel that was



being secured, but other vessels, should they break free. Once Hurricane Irma passed, City-owned vessels were launched to inspect waterways for debris, spills, sunken vessels, loose floating vessels, shoal creations, sea wall failures and missing channel markers. Staff located 29 sunken vessels, either partially or fully submerged. There were numerous trees and pilings in the waterway. Additionally, staff marked 42 seawalls with structural damage, 75 docks in need of repair and 8 channel markers damaged or missing.

The Finance Department played a key role in the event by staffing the Irma Hotline throughout the event. Personnel, operating in 12-hour shifts, seven days per week, answered calls and responded to questions and concerns, or they directed the caller to other resources beyond the City's organization. Immediately after the storm passed, many of the callers were from other areas and inquired about members of their family who reside in the Naples area. These calls were re-directed to NEOC and Naples Police and Fire-Rescue were dispatched to conduct welfare checks. Once the status

was determined, a call back to the inquiring family member was made. NEOC and the Unified Command worked diligently to ensure proper documentation was processed during the incident. Employees diligently tracked hours and personnel assignments on the required ICS forms. Finance and Fire-Rescue staff ensured the documentation was correctly filled-out and ready for submission to FEMA. Immediate attention to these forms, including ICS 214s for the first two weeks, made the FEMA form completion somewhat less cumbersome.

On October 6th, Naples staff determined that a consulting firm could assist the City with efforts to be reimbursed disaster costs by FEMA. CDR Maguire was hired by the City to provide technical assistance with financial recovery efforts for emergency response, damage and loss, plus potential mitigation expenses. CDR Maguire had been awarded the contract with Collier County, and the City could piggyback that contract, which provide a certain amount of continuity of services in the county. The cost of this consulting service is eligible for FEMA reimbursement.

The City Manager, Communications Manager, and other Naples' staff coordinated communications with residents through multiple sources. Messages were prepared for the Mayor's review and edit, were taped, and then sent out through CodeRED as telephonic and text messages. The first message was issued on September 8th and continued through September 21st. Messages sent through the CodeRed system included mandatory evacuations, boil water notices, assessment of City roads, advisement of safe conditions and when residents could return to their homes. Prior to, during, and after the storm event, the Mayor, City Manager and other staff provided a total of 66 interviews with local, state and national news agencies including CNN, FOX News, Weather Channel, MSNBC and others. All local news outlets were issued updates that were consistent in our CodeRed messages.

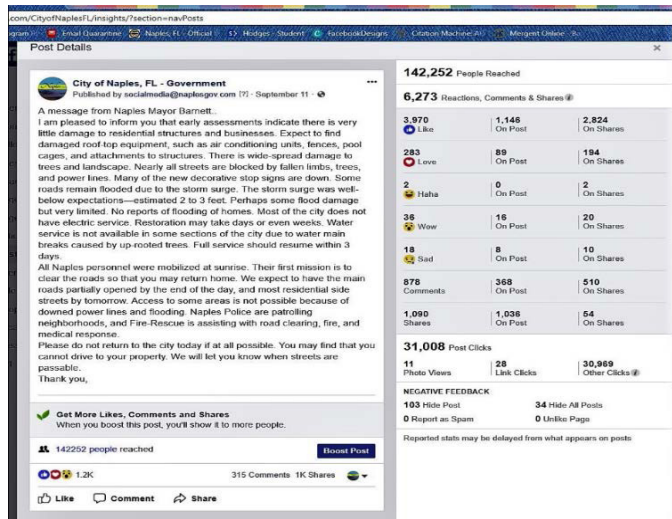
The use of social media took place between September 4, 2017 through September 26 with 55 postings during this period. Prior to the Hurricane Irma the City had 1,876 likes and by the end of September, it



HURRICANE IRMA

had increased to 3,945 likes. Social media peaked on September 11th when 142,252 people saw the City’s posts from the Mayor discussing early assessments and damage in the City of Naples.

A special “Hurricane Irma Alert / Information” page was created on the City’s webpage for residents and visitors to find the latest information about the storm. The web page was updated each day with information



to assist the Naples community, and occasionally the webpage was updated multiple times daily. The webpage also provided phone numbers and links to the Hurricane IRMA Hotline, Collier County, FPL, Comcast and to Collier and Naples Emergency Operation Centers. To help residents find the latest information, a special red banner across the top of the home page was created. A total of 21,274 text messages, 293,135 phone calls and 22,588 emails were sent.

The City Manager initiated email blasts, initially to the Presidents’ Council and other groups, and then to nearly all addresses listed in a data-base. Recipients were asked to forward the message to their members, colleagues, and acquaintances. The messages were intended to provide accurate, reliable, and relevant information prior to, during, and after the storm with the intent to offer advice for pre-storm preparation, current information as the hurricane passed through the city, and post-storm information as to the condition of the city, logistical issues, such as power

and fuel, safety issues, re-entry to the city, sources for food and water, curfew, and debris management. It was apparent that recipients did, in fact, forward messages to many others and eventually were received by people across the county and in Europe. Most messages were drafted in the Naples Emergency Operation Center to insure conveyance of relevant and factual information.

The City Manager and staff within the department were engaged with the Incident Command Team prior to, during, and after the hurricane event. Staff organized phone banks to relieve the NEOC of calls that could be handled by others. Information was shared among call-takers and most city employees to insure accurate information was understood and shared with the public. The City Manager initially located at the secondary NEOC at the Hyatt Place with other administrative staff, and then re-located to the primary NEOC on Riverside Circle after the storm passed through Naples.

The City Manager coordinated pre-and post-storm management, established criteria for employee assignments, established Human Resource policies specific to the hurricane event, and maintained communications with Collier County management, consistent with the principles of shared unified command. Success can be measured by the degree of consistent communications and information across governmental jurisdictional boundaries.

The significance of city management as an active member of the Incident Management Team became clear. Despite a very good Emergency Operations Plan and exceptionally good preparation by all departments, prompt decisions, based on information from other members of the team, were essential. Rare was the opportunity to consider all options; hence, decisions were made based upon the best available information.

It is a fact that among the greatest of challenges is communications, both internal within the organization and external to other governmental agencies, organizations, and citizens. The Unified Incident Command System, along with reliable fiber-

optic cable, telephonic communication, including the primary cellular system used by most employees, portable radios, internet, and social media all insured communication reliability not experienced by the city in previous catastrophic events.

The Mayor and City Council declared a State of Emergency on September 6, 2017 when it appeared probable that Hurricane Irma would impact Naples. Members of Council offered to assist as may be necessary. The Mayor committed to remain within the City and, at the insistence of the City Manager, located at a local hotel that would likely withstand hurricane force winds and storm surge. The Mayor and City Manager agreed that the Mayor would be the first point of contact by local and national news media with coordination by the Communications Manager, while the City Manager would interview when conflicts developed or where locations of reporters was more convenient. The Mayor and City Manager agreed on the general tone of the interviews and coordinated information that should be shared with the public.

One member of City Council had operational responsibilities at the Collier County EOC and shared information with the Naples Incident Command Team. Members of Council observed NEOC operations, visited with employees at centralized locations where meals were served, assisted with communications with citizens, and shared information throughout the recovery effort.

LONG-RANGE RECONSTRUCTION PHASE

The short-range restoration phase is followed by the long-term recovery phase which includes mitigation projects and disaster reconstruction. This phase can take a substantial amount of time. Although the restoration of power to all residents and City facilities is an essential part of the short-range recovery, power restoration that ensures that water pumps, lift stations and traffic signals are all permanently functioning with a plan to keep these operating is an essential portion of the long-range reconstruction phase. All

emergency repairs used to stabilize problems in the early recovery phases must be restored with permanent repairs. Funding for these repairs and reimbursement for storm-related costs to the City through FEMA will be an important part of the phase. Mitigation projects are identified and analyzed for potential FEMA mitigation plan projects.

The initial mitigation projects identified for the City include the hardening of the Naples Police Headquarters building to establish a hurricane category rating for the building. Additionally, the River Park Community Center has been used each hurricane event as a center point of water distribution, assistance with child care for City employees and feeding City employees, and office space for supporting agencies. It is also a place of refuge for neighborhood residents seeking a power supply, water, personal computers, recreation, etc.

The long-term loss of power to the community center required NEOC to generate a mission to find generators to operate kitchen appliances. The mitigation project suggested is to look to harden the facility and provide full generator power. Any facility that has been damaged in multiple storms should be considered for mitigation.

Long-term reconstruction phase may also include the underground power lines and the strengthening of stormwater outfalls. All projects can be submitted to FEMA, but the funding can be difficult. Regardless, the analysis of these issues is important for the City of Naples and the ability to reconstruct the community appropriately.

At this time, the City of Naples estimated cost for Hurricane Irma is approximately 20 million dollars. The City is prepared to submit much of this to FEMA to be captured for reimbursement.



ISSUES AND RECOMMENDED SOLUTIONS

In reviewing all aspects of the City of Naples plans, preparations, response, and recovery efforts from Hurricane Irma, staff has identified the following issues and recommended solutions. All City of Naples staff recognize the importance of these issues and have already begun to address many the recommended solutions for improvement, some may be included in the FEMA mitigation program. The level of cooperation and teamwork, the dedication of the City of Naples employees and the caring for the community was tremendous and unmatched. However, having said that everything generally went well in a disaster does not mean everything was perfect or went as planned. The City staff would be remiss not to openly seek ways to improve the response and be better prepared for our residents in future responses. To develop these issues and recommended solutions, management staff sought out constructive criticism from the department directors and others through the use of a survey and candid conversations with participants of the NEOC team. The issues and recommended solutions were paraphrased and, if repetitive, combined in more manageable groupings. The issues and solutions presented should in no way be deemed as the only solutions to address these issues and the overall answers to the issues may require additional brainstorming. Moreover, it is not anticipated that every solution listed will be financially or functionally practicable, nor that it can be achieved in a short timeframe. The following issues and recommended solutions are the City of Naples' self-assessment:

Issue: Positions in the NEOC were not staffed at times. This overloaded incident command and operations, ultimately reducing the effectiveness of the NEOC.

Solutions:

- ▶ Make every effort to ensure staff is competently trained in the Incident Command System; Planning and Logistics were not staffed, personnel will need to be trained in these areas.
- ▶ Clearly identify personnel to work in positions they have trained in and are most comfortable.
- ▶ Consider additional staffing depth in key positions.
- ▶ Mandate staffing of assigned positions for all operational periods.
- ▶ Prioritize as to field or NEOC assignments and rotate as may be required.

Issue: Florida Power and Light was delayed or slow to respond. Restoration of power took a very long time. Communications were difficult between NEOC and FPL.

Solutions:

- ▶ Begin communications with FPL early in the preparedness stage.
- ▶ Ensure FPL has mobilized personnel and equipment prior to the storm.
- ▶ Develop an agreement with FPL that addresses mobilization and require that work trucks be staged just outside evacuation zone and not be relocated to a different area.
- ▶ Request that a representative from FPL is assigned to NEOC.
- ▶ Recognize that pre-designated FPL contacts may be re-assigned by FPL and not available to the city.

- ▶ Have FPL provide GIS map showing outage areas or a list of affected properties so that Fire-Rescue can proactively ensure that generators in these areas are a safe distance from homes thus reducing the risk of carbon monoxide poisoning. If support can be gained from the CCSO, they may be able to use the FLIR equipped helicopter to identify homes with generators, shortening the list of homes that need to be visited.
-

Issue: Not all City Facilities are structurally built to withstand all hurricane force winds and most do not have complete backup generators to provide power.

Solutions:

- ▶ The City has already approved the construction of a Fire Station / Administrative Headquarters Building rated for a Category 5 hurricane with a new Emergency Operations Center.
 - ▶ Create a list of all City Facilities that need to be staffed during a storm.
 - ▶ Designate City facilities as primary and secondary to house staff with each facility rated for specific hurricane categories.
 - ▶ River Park Community Center was used extensively as a post storm facility for meals, water distribution and rehab. Work towards a mitigation project that hardens this facility with the addition of full back up generator.
 - ▶ Complete an assessment of the building's structural components and invest in hardening per the assessment and install a permanent generator for the River Park Community Center.
 - ▶ Prior to the next storm or event, generate agreements with private hotels to provide temporary accommodations to personnel during the storm event.
-

Issue: Many of the subdivisions had large trees down at the entrances, although on private property. Access to these areas in some cases were completely blocked and hindered accurate post storm evaluation and emergency responses.

Solutions:

- ▶ Communicate with HOA's to learn if they have existing contracts for post storm debris removal.
 - ▶ Sub-divisions without prior arrangements offer an option to contract with the City for limited removal on private property for access only immediately following storms
-

Issue: City Employees are tasked with many responsibilities that are within their job duties and requirements. However, they have family responsibilities as well. Some employees that resided in evacuation zones were being asked to evacuate but also required to be at work.

Solutions:

- ▶ All employees need to be aware of the City's policies that require the need to be at work. A plan for



evacuation of City employee families need be accomplished in blue skies. Consider pets as well.

- ▶ Although every city employee is essential for everyday operations they are all not necessarily essential to ride out the storm in a City Facility.
 - ▶ A thorough review of essential / non-essential employees should be conducted, if the employee is deemed essential, provisions for adequate accommodations based on the severity of the storm should be made.
 - ▶ Explore potential areas for City of Naples families to jointly evacuate to; this will allow the families to interact and count on each so the employee can focus on recovery and restoration efforts.
-

Issue: The dissemination of information when there is no power, cell towers, internet or television is difficult.

Solutions:

- ▶ City Hall was functional the day after the storm passed. It may be advisable to have residents check City Hall, Police Station and Fire Stations for informational updates.
 - ▶ Create information stations with backup power that provides residents the opportunity to charge devices, check emails, contact relatives and receive information. This could be accomplished at the River Park or Norris Community Centers and other City of Naples buildings.
 - ▶ Identify or establish a radio station or radio broadcast channel to work with the City of Naples to disseminate information.
 - ▶ Consider support from Ham radio operators
-

Issue: Providing meals for all employees was not established prior to the storm; acquiring, preparing and feeding of personnel became challenging.

Solutions:

- ▶ Develop contracts with outside vendors prior to the event.
- ▶ Outside contracts for post-storm feeding periods, should be accomplished with vendors preferably with generators and possibly outside of evacuation zones.
- ▶ Develop pre-set menus and pre-set order quantities for the emergency operation period and plan meals to be served.
- ▶ Assign a full-service meal team within the Planning Division to ensure the distribution of meals internally and externally.
- ▶ Appoint a food service coordinator pre-storm. A designated employee to lead and delegate the meal providing team is valuable
- ▶ Purchase pallets of water pre-hurricane season.
- ▶ Make a list of vendors not requiring electricity to provide services.
- ▶ Create a shared spreadsheet with who, what, when and where for breakfast, lunch and dinner each day of the week.

Issue: Additional contracts were needed to effectively respond to the rapidly changing incident; this slightly slowed efforts and required NEOC to request assistance from outside sources.

Solutions:

- ▶ Evaluate the potential of developing a more extensive list of contracts that meet federal standards prior to any event for the following needs / areas:
 - Meal and food contracts for feeding personnel
 - Cut and Push teams – front end loaders, tractors, etc.
 - Tree Service and Landscape Service Contracts
 - Hauling debris – horticultural and C&D
 - Equipment – generators, chain saws, pumps (possible rental agreements)
 - Emergency roof repairs for City facilities
 - TECO Gas Company to deliver stand-by tanks to ensure Fire Station generators can operate even if gas lines have been damaged
- ▶ Each year review the contract list as part of an annual Hurricane Preparation and ensure contracts are up to date and ready to be utilized.
- ▶ Make contact all vendors and confirm that contracts are valid, and vendor is prepared every year prior to event.
- ▶ Ensure the responsible parties will oversee the implementation of the contract.
- ▶ Review existing and future vendor contracts to insure compliance with FEMA regulations.

Issue: Traffic signals and lift stations were inoperable due to power failures throughout the area and the necessary generators were not always readily available.

Solutions:

- ▶ Determine the most important / high impact intersections and lift stations that need generators.
- ▶ Develop a comprehensive list of generators that are required to operate major intersections and lift stations within the City.
- ▶ Consider purchasing the most commonly needed generators and have them on hand with a developed maintenance plan.
- ▶ Develop a contract with a rental company and procure the needed generators before the storm hits.
- ▶ Have and use portable four-way stop signs at secondary intersections to reduce the number of needed generators.

Issue: Streets, Stormwater & Natural Resources should become more resilient.

Solutions:



HURRICANE IRMA

- ▶ Traffic signals hanging on span wires should be considered for upgrade to either mast arm or roundabout.
- ▶ Decorative metal mountings for traffic signs require an alternative base support to withstand Cat-4 hurricane winds.
- ▶ A professional firm should be hired to collect GIS asset inventory of City traffic control devices (signs, signals, pavement striping/markings, etc.)
- ▶ Routine inspections of outfalls should be done to ensure that adjacent private property owners are not illegally tapping into outfall pipes or in any way adversely affecting the outfall or public's easement area.

Issue: The information number and call center were extremely helpful to the community, improvements and changes can make this more valuable.

Solutions:

- ▶ Create additional space / lines and have the call center located adjacent to NEOC.
- ▶ Develop training for personnel staffing the call center and create a roster of personnel that can be assigned to the call lines.
- ▶ Improve information flow and recording of intake data by equipping call center staff with computers to record and disseminate information to appropriate NEOC personnel. Consider developing a real-time data base system allowing for assignment and call prioritization.
- ▶ Streamline and organize the information flow from the call center to the action areas of NEOC.
- ▶ Use the GIS Current Conditions map to help disseminate pre-storm and post-storm information. The storm tracks are automatically updated. Evacuation areas can be added as well as active gas stations.

Issue: Improve pre-storm preparedness.

Solutions:

- ▶ Ensure table top and practice activities occur annually prior to the hurricane season.
- ▶ Review, add, edit and utilize Emergency Plan preparedness checklists.
- ▶ Create assignments for personnel within the incident command system pre-storm and guarantee personnel are properly trained.
- ▶ Review Emergency Plan periodically to confirm that all departments and personnel are ready for an emergency.
- ▶ Train all essential ICS staff / personnel appropriately.
- ▶ Reliable and functional communications during the response and response operational periods is essential.
- ▶ Consider evaluation and replacement of radios in Community Services, Streets and Stormwater, Utilities and Building Departments.
- ▶ The City should consider identifying priority areas for damage assessments and deploy drones to identify damage & hazards, allowing follow-up teams to be better utilized. Data from the drones can be

“live” streamed back to the NEOC to allow immediate analysis. Drones could also be used post storm to look for areas where there is evidence of running water, indicating that there may be water main breaks.

- ▶ All Departments should consider utilization of the City’s selected Initial Damage Assessment (IDA) software. This would require each Department to define assessment and debris clearing operations, loading asset information into the City’s GIS and maintaining it. The City’s IDA should be capable of operating without internet connectivity if it is lost.
-

Issue: Needed information and requested assistance from Collier EOC did not materialize for days and in some instances not at all.

Solutions:

- ▶ Naples should be self-sufficient and prepared to operate as a stand-alone entity for at least 72 hours post-storm.
 - ▶ Plans and preparations need to be made prior to any large-scale event so the City can manage independently.
 - ▶ Consider increasing the fleet of clam trucks and trained operators to respond to a future event.
 - ▶ The City does not have any front-end loaders equipped with grapple attachments, which are highly efficient in removing debris when working with roll-off trucks or any container. Consider purchasing one large front-end loader with a grapple and bucket attachment.
 - ▶ Explore the purchase of grapple attachments for all existing front-end loaders and tractors.
 - ▶ Consider purchasing skid steerers with grapple attachments for use in parks and areas where there are overhead hazards (power lines, trees, etc.) that prevent a large front-end loader or clam truck from removing debris.
-

Issue: Code Enforcement worked with landscapers to allow them the opportunity to leave all debris along the ROW. This contrasts with the code, but logical after such a large event. Code violations and issues could be discussed, and a solution considered.

Solutions:

- ▶ Many absentee homeowners did not clean up their properties until after FEMA debris trucks made their final passes. Investigate means to contact part-time residents.
- ▶ Many unlicensed contractors flooded the area. Code violations were issued, but a consideration to have additional personnel trained or cross train personnel to handle the influx of violations.
- ▶ Collier County instituted a special licensing process. If you were a licensed tree/stump/landscaper from outside our area, they would issue a special 60-day license, the City should consider this type of rapid approval.
- ▶ Issues arose where construction and demolition (C&D) debris was mixed with landscape debris and neither would be picked up. While blast messages encouraged separation, additional education of



proper disposal piles should be considered and communicated. Consider communicating with residents.

- ▶ Once the landscapers were instructed to begin removing debris, many did not. Consequences for improper or lack of removal should be instituted.
-

Issue: The City lacks needed debris removal equipment for use post storm.

Solutions:

- ▶ Consider purchasing:
 - Clam trucks
 - Front-end Loader with grapple attachment and bucket
 - Skid Steerers with grapple attachment
 - Grapple attachments for existing front-end loaders and tractors
-

Issue: ICS Daily Forms 214 and 218, although completed by nearly all personnel and most employees put forth a great effort to be concise, the forms were not completed in a consistent manner, and some were missing data.

Solutions:

- ▶ The City should consider developing its own internal “Emergency Daily Activity Worksheet” for users. This form will have information from the FEMA 214 Personnel Activity form and the FEMA 218 Equipment Activity form incorporated on to one form. This worksheet should consider the inclusion of information in payroll system, fixed asset system, and FEMA’s project classifications. Developing a user-friendly worksheet prior to any subsequent incident and including its use in the City’s annual incident preparedness drill will assure familiarity with the form and serve to further vet its content.
 - ▶ Any activity worksheet must be filled out with required detail in real time (daily), signed by the employee and signed by their supervisor at the close of each day. Taking the extra time to properly document incident related activity, relevant to the FEMA required request for reimbursement, will significantly increase the likelihood of actual reimbursement from FEMA.
-

Issue: The primary and back up data centers for Technology Services are located in buildings that are rated only for Category three storms, making the City’s IT mission critical infrastructure vulnerable to damage.

Solutions:

- ▶ Make provisions to move the primary data center into the new Fire Station. Technology Services should also continue investing in cloud services that provide offsite security of the City’s data.

Issue: It was identified that some of the City’s fiberoptic network was above ground and had not been

buried, creating a communications vulnerability between buildings.

Solutions:

- ▶ Prior to a storm, consider burying any communications lines that are above ground and plans should be made to ensure that communications lines are buried during the time of installation.

CONCLUSIONS

Hurricane Irma tested the City of Naples ability to manage a strong direct impact hurricane. The City demonstrated it was able to respond to this disaster from sheltering employees, to the removal of tons of horticultural debris, to providing water, and supplies to affected residents. The storm caused damage that left 90% of the City's residents without electricity for days, some neighborhoods flooded and severe damage to the infrastructure. Hurricane Irma's challenges presented a substantial test of the City of Naples' plans, training, resources, partnerships and response abilities. The overall assessment of the City of Naples to coordinate, response and recover from the storm seemed to be positive and meet the needs of the citizens of Naples.

The City of Naples recognizes that it must continue to enhance its plans, strategies, capabilities and communication processes to prepare for another potentially larger, more severe disaster. The issues and recommended solutions section contained in this After-Action Report will help to further enhance the City of Naples preparedness and continuous improvement for future emergency events. The commitment to learning lessons from every emergency event, developing solutions to identified issues, and following through with implementation of ideas will allow the City of Naples to better serve the residents, visitors and the community.

