

[Name of Jurisdiction]

INFRASTRUCTURE RECOVERY TEMPLATE



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Introduction

The [Name of Jurisdiction] Infrastructure Recovery [Template] identifies a range of actions to support and coordinate infrastructure recovery among various agencies and organizations. This serves as a [Template] to the [Name of Jurisdiction Recovery Plan].

This [Template] provides local emergency management agencies and public and private sector partners with guidance to support recovery activities in the aftermath of a disaster or emergency that results in a long-term impact to the community. This [Template] is a living document and any additional recovery issues identified in the future and will be included in revised editions of this document.

In the context of this [Template], infrastructure systems align with Federal Emergency Management Agency's (FEMA) Community Lifelines deemed most critical to the North Central Texas Council of Governments (NCTCOG) planning team. Local jurisdictions using this template are encouraged to add or remove information based on applicability to the jurisdictions.

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Record of Changes

Date	Annex Section	Change	Who Posted

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I. Purpose, Scope, Situation Overview, and Assumptions

Purpose

The Infrastructure Recovery [Template] outlines roles, responsibilities, and activities of the agencies and organizations supporting the Infrastructure Recovery Support Function (RSF) for pre- and post-event recovery operations. The [Template] coordinates public and private efforts to maintain and restore facilities, infrastructure systems, and related services located in [Name of Jurisdiction].

Scope and Applicability

This Template applies to all government agencies within [Name of Jurisdiction], along with additional public and private-sector organizations. Furthermore, this [Template] applies to response (where appropriate) and recovery operations during state- and Presidentially declared emergencies or major disasters. This [Template] will be applied following a disaster after the initial response phase has passed and immediate threats to life and property have been stabilized.

This [Template] supports and integrates state and federal plans that aid in recovery operations, including the Federal Emergency Management Agency's (FEMA) National Disaster Recovery Framework and the National Response Framework, 4th Edition. The Annex template adheres to plan-development guidance set forth in FEMA's Developing and Maintaining Emergency Operations Plans: Comprehensive Preparedness Guide 101, Version 2.0 and Pre-Disaster Recovery Planning Guide for Local Governments.

Situation Overview

Geographic, Demographic, and Socioeconomic Overview

[Name of Jurisdiction] aims to anticipate infrastructure recovery needs, prevent or mitigate the effects of a disaster, and provide services and resources necessary to return the community to daily life. This section describes the [Name of Jurisdiction]'s geography and demographics; hazards that may threaten the community; and the potential impacts to people, property, the environment, and the economy.

- [Name of Jurisdiction] has an approximate population of (XX) and an area of (XX) square miles.
- An estimated (XX) people, or (XX) percent of the population, are people with disabilities and others with access and functional needs. All plans and [Template] es must be compliant with requirements of the Americans with Disabilities Act. People with disabilities and others with access and functional needs must have access to all government-provided services.
- (XX) percent of the population are children under the age of 18, and (XX) percent are seniors over the age of 65. (XX) percent of the senior population is home-bound.
- Among the [Name of Jurisdiction] population, (XX), or (XX) percent, are living at or below the poverty line.

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- [Name of Jurisdiction] has (XX) miles of roads, including (names of major highways/throughways), (XX) bridges, (XX) water/wastewater treatment plants, and (names of other major infrastructure).
- [Name of Jurisdiction] has a population of (XX) served by (names of area power companies).
- [Name of Jurisdiction] has a population of (XX) served by (names of local water department).
- [Name of Jurisdiction] is served by (name of transit provider) with an annual ridership of (XX).
- (Add additional statistics related to Energy, Transportation, Water, or Communications sectors.)

Hazards and Vulnerability Analysis Summary

([Name of Jurisdiction]) is vulnerable to a wide range of hazards that threaten residents, businesses, government, and the environment, including those listed in Table 1. The table below is a summary of the hazards and vulnerabilities listed in the [Name of Jurisdiction] Hazards and Vulnerability Analysis. (*Modify table as necessary.*) (Include information about previous risk assessment activities and relevant findings).

Table 1: Hazards for ([Name of Jurisdiction])

Earthquake	Hazardous material emergency
Flood	Energy disruption
Fire	Food and agricultural emergency
Landslide	Civil unrest
Dam and levee failure	Pandemic and epidemic
Severe weather	Terrorist attack

Assumptions

- [Name of Jurisdiction]'s Office of Emergency Management will actively engage supporting partners in planning, training, and exercises to ensure an effective operation upon activation.
- Redundancies exist within infrastructure systems to facilitate disaster recovery. These systems will be used in facilitating post-disaster recovery efforts.
- Existing memoranda of understanding (MOUs) and memoranda of agreement (MOAs) will be employed to access certain services and resources following an incident, including law enforcement, community services, communications, transportation, water, and sewer.
- Nontraditional roles may be necessary for certain response stakeholders. These roles will likely mirror day-to-day responsibilities but will be employed in settings consistent with recovery priorities. For example, law enforcement may be used to provide security at points of distribution or to direct traffic.
- Damage assessment team composition and thoroughness in the field will be crucial to appropriately address recovery issues.
- Recovery progress and assistance activities will be of high interest to local and national media. Media management will be challenging.

Plan/[Template] Integration

This [Template] aligns with the [Name of Jurisdiction] Emergency Operations [Template], other agency-specific plans, and the FEMA Incident Stabilization Guide.

Community Lifelines

This [Template] aligns with FEMA Community Lifelines, which address specific components within the mission of restoring facilities, infrastructure systems, and related services located in [Name of Jurisdiction]. FEMA developed the community lifelines construct to increase effectiveness in disaster operations and better respond to catastrophic incidents. The construct allows emergency management to characterize the incident and identify the root causes of priority issue areas. Lifelines provide an outcome-based, survivor-centric frame of reference that assists responders with the following:

- Rapidly determining the scale and complexity of a disaster
- Identifying the severity, root causes, and interdependencies of impacts to basic, critical lifesaving and life-sustaining services within impacted areas
- Developing operational priorities and objectives that focus response efforts on the delivery of these services by the most effective means available
- Communicating disaster-related information across all levels of public, private, and nonprofit sectors using a commonly understood, plain language lexicon
- Guiding response operations to support and facilitate integration across mission areas

Community lifelines reframe incident information to provide decision makers with impact statements and summarize the root causes of disruptions to lifeline services. This construct maximizes the effectiveness of federally supported, state-managed, and locally executed response.

Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. Lifelines are the integrated network of assets, services, and capabilities that are used day-to-day to support the recurring needs of the community, and, when disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required to stabilize the incident.

Each lifeline comprises multiple components and subcomponents that help define the services that make up that lifeline (see Figure 1). The components are further divided into relevant subcomponents that provide a granular level of enabling functions for the delivery of services to a community. Lifelines and components are fixed, but subcomponents may be adjusted as necessary. It is also important to remember that not every incident or event will affect all of the lifelines or the components. This [Template] applies to the lifelines that feature energy, communications, transportation, and water. These are detailed in the next section.

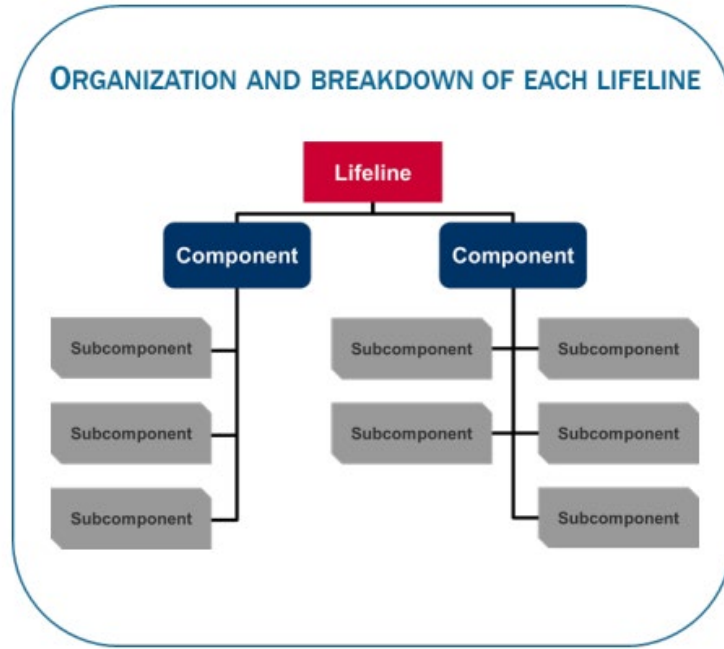


Figure 1: Community Lifeline Construct

II. Concept of Operations

The Concept of Operations applies to infrastructure recovery following a disaster incident affecting [Name of Jurisdiction]. The Infrastructure Recovery [Template] will be activated when a community lifeline becomes destabilized in [Name of Jurisdiction]. The Concept of Operations presents essential elements of information, preparedness, short-term, and long-term recovery actions for emergency managers, and identifies roles and responsibilities of all partners involved.

Critical Function 1: Energy

The Energy Critical Function aligns with the Energy (Power and Fuel) Community Lifeline, which encompasses electricity service providers and generation, transmission, and the distribution infrastructure; and gas and liquid fuel processing and delivery systems.

Components and Essential Elements of Information

During an incident, the following essential elements of information (Table 2) should be determined as early as possible and updated throughout the incident.

Table 2: Components and Essential Elements of Information for the Energy Critical Function

Component	Essential Elements of Information
Power (Grid)	Status of electrical power generation and distribution facilities
	Number of people and locations without power
	Estimated time to restoration of power
	Number of electrically dependent persons (e.g., medical equipment) affected
	Status of natural gas and fuel pipelines in the affected area
Temporary Power	Status of critical facilities
	Availability of temporary power resources
Fuel	Status of commercial fuel stations
	Responder fuel availability
	Status of critical fuel facilities
	Status of fuel supply line, including specialized fuel (e.g., jet fuel, diesel)

Preparedness Activities

- Establish plans for fuel distribution and supply for critical service providers during recovery.
- Install, test, and properly fuel generators to maintain operations for up to # days at critical infrastructure locations (e.g., hospitals, fire and police stations, water treatment plants).

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- Incorporate GIS maps of power lines and pipelines within the jurisdiction
- Update contact information for critical infrastructure operators and/or service providers.
- Identify and build relationships with key response partners, especially local utility providers.
- Maintain contact list for local utility responders.
- Establish emergency fueling contracts.
- Create a list of generators at critical facilities and prioritize to determine priority for assistance.
- Develop and implement a generator needs assessment for critical facilities, including size of generator needed, fuel type and capacity, and connection.

Transition to Short-term Recovery Actions

- Continue coordination of response-phase power-restoration activities and support utility companies as requested.
- Maintain contact with the affected carrier to determine extent of the outage and prioritize restoration.
- Identify priority areas for restoration of systems that support the safety and welfare of vulnerable populations.
- Provide restoration timelines and service outage information to the public.
- Prioritize use of emergency contracts for critical infrastructure (i.e., hospitals, fire stations, water treatment plants, etc.).
- Provide resource support for restoration as requested.

Long-term Recovery Actions

- Evaluate areas of dependency on third parties and continue implementation of stand-by contracts for support needs.
- Coordinate repairs, reconstruction, and restoration of critical utilities infrastructure.
- Identify hardening and mitigation opportunities to incorporate into reconstruction plans.

Roles and Responsibilities

Office of Emergency Management

- Manage Emergency Operations Center (EOC) operations and oversee the transition to recovery.
- Coordinate and support damage assessment teams.
- Provide situational reports and damage assessments to the Texas Division of Emergency Management (TDEM).
- Coordinate and maintain files of all initial assessment reports.
- Collaborate with state and federal recovery partners to coordinate resources.

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- Support content development for public outreach via websites, social media, publications, and events.
- Facilitate after-action review meetings and coordinate development of after-action reports.

Utility Companies

- Coordinate internal response plans to restore services as quickly as possible.
- Communicate scope and expected duration of an outage to the public.
- Coordinate messaging with the local jurisdiction to ensure consistency in messaging.
- Communicate and coordinate with government officials on the status of recovery operations.
- Provide information to the incident commander, other incident response managers, the local community EOC, and utility management if needed.

Critical Function 2: Communications

The Communications Critical Function aligns with the Communications Community Lifeline, which encompasses Infrastructure, Responder Communications, Alerts, Warnings, and Messages, Finance, and 911 and Dispatch.

Components and Essential Elements of Information

During an incident, the following essential elements of information (Table 3) should be determined as early as possible and updated throughout the incident.

Table 3: Components and Essential Elements of Information for the Communications Critical Function

Component	Essential Elements of Information
Infrastructure	Status of telecommunications service
	Reliability of Internet service
	Reliability of cellular service
	Requirements for radio and/or satellite communication capability
Alerts, Warnings, and Messages	Status of the emergency alert system (e.g., television, radio, cable, cell)
	Status of public safety radio communications
	Status of mass notification system (e.g., Everbridge, Alertfind, Alertus)
	Options for dissemination of information to the whole community
	Status of outdoor warning system
	External affairs and media communication
911 and Dispatch	Status of phone infrastructure and emergency line
	Number of callers and availability of staff and facilities
	Status of responder communications
	Status of redundancy or roll over capabilities
	Status of computer-aided dispatch (CAD) systems
	Availability of communications equipment
Responder Communications	Status of EOC(s), dispatcher, and field responder communications
	Availability and status of first responder communications equipment
Financial Services	Access to cash
	Access to electronic payment
	Local economic impact

Preparedness Activities

- Establish plans for interoperability and redundancy of responder communications.

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- Work with telecommunications and information technology companies to pre-identify critical assets and equipment.
- Pre-plan communications infrastructure-repair processes so that they can occur in tandem with the recovery of transportation corridors.
- Validate interoperability for 911 Dispatch and Responder Communications.
- Update contact information for critical infrastructure operators and/or service providers.
- Establish emergency notification system contracts.

Transition to Short-term Recovery Actions

- Continue coordination of response-phase communications-restoration activities and support communications infrastructure companies as requested.
- Maintain contact with the affected carrier to determine extent of the outage and prioritize restoration.
- Identify priority areas for restoration of systems that support the safety and welfare of vulnerable populations.
- Provide restoration timelines and service outage information to the public.
- Provide resource support for restoration as requested.

Long-term Recovery Actions

- Identify hardening and mitigation opportunities to incorporate into reconstruction plans. Encourage investment in redundant assets to maintain communications and supply temporary service.
- Evaluate areas of dependency on third parties and continue implementation of stand-by contracts for support needs.
- Coordinate repairs, reconstruction, and restoration of critical utilities infrastructure.

Roles and Responsibilities

Office of Emergency Management

- Manage EOC operations and oversee the transition to recovery.
- Coordinate and support recovery teams.
- Provide situational reports and updates to TDEM.
- Coordinate and maintain files of all initial assessment reports.
- Collaborate with state and federal recovery partners to coordinate resources.
- Support content development for public outreach via websites, social media, publications, and events.
- Facilitate after-action review meetings and coordinate development of after-action reports.

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Communications Companies

- Coordinate internal response plans to restore services as quickly as possible.
- Communicate scope and expected duration of an outage to the public.
- Communicate and coordinate with government officials on the status of recovery operations.

911 and Dispatch

- Coordinating and dispatching first responders as appropriate.
- Maintain and update on return of computer-aided dispatch (CAD) systems.
- Coordinate for roll over capabilities during outage.
- Coordinate staffing and facility readiness.
- Coordinating mutual aid efforts.
- Where appropriate, assist with resource allocation.
- Field calls and provide information to family and friends calling the non-emergency number.

Infrastructure

- Maintain operations of tower sites, lines, and connectivity.
- Coordinate repairs for damaged infrastructure.

Critical Function 3: Transportation

The Transportation Critical Function aligns with the Transportation Community Lifeline and encompasses highway, roadway and motor vehicle, mass transit railway, aviation, and maritime.

Components and Essential Elements of Information

During an incident, the following essential elements of information (Table 4) should be determined as early as possible and updated throughout the incident.

Table 4: Components and Essential Elements of Information for the Transportation Critical Function

Components	Essential Elements of Information
Highway/Roadway	Status of major roads and highways
	Status of critical and noncritical bridges
	Status of maintenance and emergency repairs
	Status of secondary routes
	Need for debris removal
Mass Transit	Status of public transit systems including underground rail, buses, and ferry services
	Status of fleet maintenance
	Status of fuel availability
	Status of driver availability
Railway	Status of area railways and stations
	Status of restoration of operations
	Status of conditions impacting navigable routes
Aviation	Status of operations for area airports (open, closed, diversion status, ground stops, etc.)
	Status of incoming and outgoing flights
	Accessibility to the airport

Preparedness Activities

- Establish plans for fuel distribution and supplies for critical service providers during recovery.
- Identify priority roadways and transit routes for service restoration.
- Update contact information for critical infrastructure operators and/or service providers.
- Establish emergency fueling contracts and identify other fueling options.
- Establish lodging contracts and meal services in advance of stranded passengers.
- Identify priority roadways for service-restoration prioritization.

- Coordinate with public works and police departments to pre-stage traffic control devices.

Transition to Short-term Recovery Actions

- Continue coordination of response-phase roadway and service-restoration activities and support as requested.
- Maintain contact with the affected transportation provider (e.g., airport, mass transit, rail) to determine extent of the outage and prioritize restoration.
- Identify priority areas for restoration of systems that support the safety and welfare of vulnerable populations.
- Provide restoration timelines and service outage information to the public.
- Provide resource support for restoration as requested.
- Coordinate with the Texas Department of Transportation in the event road detours require off-network roads.

Long-term Recovery Actions

- Evaluate areas of dependency on third parties and continue implementation of stand-by contracts for support needs.
- Coordinate repairs, reconstruction, and restoration of critical utilities infrastructure.
- Identify hardening and mitigation opportunities to incorporate into reconstruction plans.

Roles and Responsibilities

Office of Emergency Management

- Manage EOC operations and oversee the transition to recovery.
- Coordinate and support damage assessment teams.
- Provide situational reports and damage assessments to TDEM.
- Coordinate and maintain files of all initial assessment reports.
- Collaborate with state and federal recovery partners to coordinate resources.
- Support content development for public outreach via websites, social media, publications, and events.
- Facilitate after-action review meetings and coordinate development of after-action reports.

Highway, Railway, and Motor Vehicle Maintenance

- Coordinate internal response plans to restore services as quickly as possible.
- Manage detours and re-routing as necessary.
- Communicate scope and expected duration of impact to the public.
- Communicate and coordinate with government officials on the status of recovery operations.

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- Respond to State of Texas Assistance Requests (STAR) as organizational capacity allows.
- Conduct after-action review meetings and coordinate development of after-action reports to improve future incident preparedness and response.

Aviation Operators

- Coordinate internal response plans to reopen the airport as quickly as possible.
- Manage severe weather response plan in anticipation of sheltering and feeding stranded passengers.
- Communicate with affected airlines and liaise with local governments.
- Provide public information to local communities in consultation with airline partners regarding duration of closure.
- Assist local supply chain partners during long-term facility disruptions.
- Communicate and coordinate with government officials on the status of recovery operations.

Railway Operators

- Coordinate with affected local jurisdictions to assist with immediate Mass Casualty Incident response.
- Establish Family Assistance Centers as required by federal regulations.
- Coordinate with local or state emergency management agencies to leverage local jurisdictions' established relationships with the surrounding community.
- Activate internal recovery plans to restore service as quickly as possible.
- Communicate scope and expected duration of impact to the public.
- Communicate and coordinate with government officials on the status of recovery operations.
- Provide resource movement if requested by local jurisdictions.

Mass Transit

- Coordinate internal response plans to restore services as quickly as possible.
- Execute established MOUs with local jurisdictions.
- Conduct training and exercises with local first responders and emergency management agencies.
- Communicate scope and expected duration of an outage to the public.
- Re-establish service following priority route and service-level designations.
- Communicate and coordinate with government officials on the status of recovery operations.
- Conduct agency after-action review meetings and coordinate development of after-action reports.

Critical Function 4: Water

The Water Critical Function aligns with the Food, Water, and Shelter Community Lifeline. The Water Critical Function includes water and wastewater utilities and the commercial water supply chain.

The Water Critical Function is unique because water and wastewater utilities are public-sector agencies when delivered to the customer, but water and wastewater systems contain multiple components that may be under the control of various other jurisdictions as water travels from the source to the resident.

Figure 2 shows how water may travel from a source to homes or businesses. [Name of Jurisdiction] must identify all critical infrastructure components and identify points of contact for components outside of the [Name of Jurisdiction]'s boundaries (i.e., the jurisdiction's water source is located in a neighboring county).

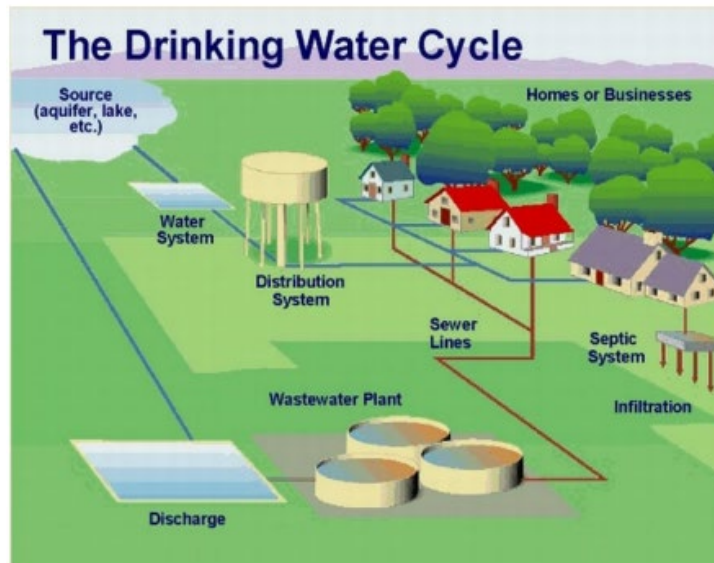


Figure 2: Example of a Public Water Supply System
(Photo source: Environmental Protection Agency)

The following critical infrastructure components must be stabilized to ensure continued operation of water and wastewater systems.

- **Water Source (e.g., aquifer, lake, etc.):** This may be ground water, surface water, or a combination of the two.
- **Conveyance:** To bring water from a remote source to the treatment plant, community water systems may use pipes or open canals; the water may be pumped or gravity-fed.
- **Raw Water Storage:** Reservoirs or lakes hold water from the source before it is treated.
- **Treatment Plants:** A variety of physical and chemical treatments is applied depending on the contaminants detected in the raw water.
- **Finished water storage (water towers):** Treated water is stored before being distributed to customers.
- **Distribution system (water lines, sewer lines):** The network of pipes, tanks, pumps, and valves that conveys water to customers.

- **Monitoring system:** Most monitoring is conducted for conventional regulated and unregulated contaminants. Some utilities have sensors installed at critical points to monitor a range of physical properties such as water pressure and water quality.

Components and Essential Elements of Information

During an incident, the following essential elements of information (Table 5) should be determined as early as possible and updated throughout the incident.

Table 5: Components and Essential Elements of Information for the Water Critical Function

Components	Essential Elements of Information
Potable Water	Operating status of Points of Distribution (PODs)
	Operating status of supermarkets, neighborhood markets, and grocery stores
	Operating status of restaurants
	Impacts to the food supply chain
	Operating status of public and private water supply systems
	Operating status of water control systems (e.g., dams, levees, storm drains)
	Boil water advisories
Water Infrastructure	Operating status of public wastewater systems and private septic systems
	Operating status of wastewater processing facilities
	Operating status of public and private water infrastructure (e.g., water mains)

Preparedness Activities

- Identify and build relationships with key response partners, especially local water and wastewater providers.
- Request copies of water and wastewater providers' emergency preparedness, response, and recovery plans and other key utility information.
- Establish plans for water distribution and supply for critical service providers during recovery.
- Incorporate maps of water distribution lines within the jurisdiction
- Develop an emergency drinking water plan in coordination with water providers that includes coordination of procurement of emergency water supplies, delivery, and distribution locations.
- Update contact information for water infrastructure operators and/or service providers.
- Coordinate with providers to prepare GIS maps of local distribution system

Transition to Short-term Recovery Actions

- Maintain contact with the affected provider to determine extent of the outage and prioritize restoration.
- Identify priority areas for restoration of systems that support the safety and welfare of vulnerable populations.
- Continue coordination of response-phase water-restoration activities and support water and wastewater providers as requested.
- Provide restoration timelines and service-outage information to the public.
- Prioritize use of emergency contracts for critical infrastructure (i.e., hospitals, fire stations, water treatment plants, etc.).
- Provide resource support for restoration as requested.

Long-term Recovery Actions

- Evaluate areas of dependency on third parties and continue implementation of stand-by contracts for support needs.
- Coordinate repairs, reconstruction, and restoration of critical utilities infrastructure.
- Identify hardening and mitigation opportunities to incorporate into reconstruction plans.

Roles and Responsibilities

Office of Emergency Management

- Manage EOC operations and oversee the transition to recovery.
- Coordinate and support damage assessment teams.
- Provide situational reports and damage assessments to TDEM.
- Coordinate and maintain files of all initial assessment reports.
- Collaborate with state and federal recovery partners to coordinate resources.
- Support content development for public outreach via websites, social media, publications, and events.
- Facilitate after-action review meetings and coordinate development of after-action reports.

Water and Wastewater Providers

- Conduct assessments of water and wastewater treatment infrastructure and service.
- Conduct assessments and coordinate repair of damage to water mains, distribution lines, and other water-distribution infrastructure.
- Monitor the potential contamination of the water supply.
- Establish protocols to collect and manage incident information, such as sampling and analysis results and incident status reports.

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- Issue boil-water advisories as needed following contamination of the water supply or damage to infrastructure.
- Provide information to the incident commander, other incident response managers, the local community EOC, and water and wastewater management departments if needed.
- Coordinate necessary repairs to water and wastewater systems, including the use of contractors and vendors as needed.
- Manage the standby contract for diesel fuel and drivers for emergency backup generators at wastewater treatment plants and any additional locations with generator backup.
- Work with public information officers to distribute information on the status of sewer-system and wastewater operations to affected residents and commercial customers.

III. Direction, Control, and Coordination

This recovery Template is the official source for Name of Jurisdiction pertaining to all emergencies and disasters when coordinated disaster recovery is required.

Direction, control, coordination, and management of recovery operations will be conducted from the recovery office, if established. Otherwise, recovery operations will be managed remotely through the home offices of activated organizations.

IV. Communication

Internal Communications

Upon activation of this Infrastructure Recovery [Template], [Name of Jurisdiction] will notify internal agencies and partners involved in infrastructure recovery. This internal communications strategy will be helpful to increase and enhance communication among recovery partners. It also encourages transparency and accountability among stakeholders and identifies and bridges potential communication and information gaps.

The ([Name of Jurisdiction Agency Lead for Infrastructure]) will be responsible for the organization and structure of internal communications. This function may address key issues such as the following:

- Consistent messaging among agency constituents and customers
- Effective communications of ongoing needs
- Effective communication with elected officials
- Methods of sharing information, including management of sensitive issues
- Resources that may be needed and available
- Establishment of communication methods such as WebEOC and email

External Communications and Public Outreach

External communications will be necessary to keep the public informed of disaster-recovery efforts and progress and how to access available program assistance and eligibility requirements. All public information should be accessible to the general public, including people with disabilities and others with access and functional needs and those with limited English proficiency, and should be frequently shared in a clear, consistent, and culturally sensitive manner. Considerations for public messaging to ensure public information is consistently equitable and culturally appropriate may include the following:

- Ensuring all communications available to the public are compliant with Section 508 Amendment to the Rehabilitation Act of 1973 (i.e., 508 compliant) in all forms, including social media, websites, and printed materials
- Ensuring digital content is compatible with various assistive technologies that may be used by individuals affected by the disaster
- Ensuring all communications are crafted using culturally sensitive language and phrasing
- Understanding the languages spoken in the disaster area

[Name of Jurisdiction] Public Affairs will take the lead role for coordinating and disseminating recovery information to the public. Public education and outreach will be conducted using a variety of delivery methods to ensure that the entire affected population is reached. Methods used to communicate with and disseminate information to the public will include the following:

- Websites
- Social media
- Traditional media (television, radio, print, etc.)

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To ensure critical disaster infrastructure recovery information reaches more vulnerable and “hard-to-reach” communities, [Name of Jurisdiction] will coordinate with recovery partners to identify trusted organizations and community partners to assist with amplifying infrastructure recovery information.

V. [Template] Development and Maintenance

The [Name of Jurisdiction] Office of Emergency Management is responsible for maintenance of this [Template]. Organizations listed in this [Template] may recommend changes at any time and provide information periodically pertaining to changes in personnel and available resources. The [Name of Jurisdiction] Office of Emergency Management will coordinate an annual review and revise the [Template] as necessary.

This Infrastructure Recovery [Template] provides an overall approach to stabilizing community lifelines and assisting in recovery. As part of ongoing preparedness efforts, recovery committees should develop supplemental processes, policies, and plans, including the following: *(Modify bullets as necessary)*

- Standby disaster contracts and mutual aid agreements
- Risk assessments and capability assessments
- Continuity of government and/or continuity of operations plans
- Hazard mitigation plans
- Debris management plans
- Damage assessment plans
- Disaster recovery plans

Organizations with a role in disaster recovery should train staff to develop skills and expertise to carry out recovery responsibilities included in this [Template]. Training may include the following:

- Damage-assessment procedures
- Expedited permitting procedures
- Public information and outreach and crisis communications

This [Template] should be activated at least once a year in the form of an exercise, real-life event, or training to provide practical operations experience to those who have recovery responsibilities. Recovery operations outlined in this [Template] should be incorporated into response exercises when possible. Stakeholders included in this [Template]—particularly private-sector partners—should be invited to participate in recovery-related exercises. Following each exercise, relevant feedback identified in the after-action report and improvement plan should be incorporated as an update to this [Template].

VI. Authorities and References

Legal Authorities

- The Robert T. Stafford Disaster Relief and Emergency Assistance, Public Law 93-288, as amended
- Title 44, Code of Federal Regulations, parts 9, 10, 13, 59, 204, and 206
- (Insert applicable authorities)

References

- Comprehensive Preparedness Guide (CPG) 101, Federal Emergency Management Agency, November 2010.
- Homeland Security Exercise and Evaluation Program (HSEEP), U.S. Department of Homeland Security. April 2013.
- National Incident Management System (NIMS), U.S. Department of Homeland Security, October 2017.
- National Disaster Recovery Framework, Federal Emergency Management Agency, June 2016.
- National Response Framework, U.S. Department of Homeland Security, October 2019.
- Texas Division of Emergency Management, Emergency Operations Annex, 2019
- State of Texas Hazard Mitigation Annex. 2013.
- ([Name of Jurisdiction]) Emergency Operations Annex, (Month, Year).
- ([Name of Jurisdiction]) Hazard Mitigation Annex, (Month, Year).

Attachment 1: Energy Infrastructure and Stabilization Matrix

Critical Energy Infrastructure List

The following resources have been identified as Critical Infrastructure by the [City/County] Office of Emergency Management and partner agencies.

Critical Infrastructure	Subcomponent	Impact	Interdependent Lifelines
Energy Plant#1 POC Name (###) ###-#### Email@email.com	Power	<ul style="list-style-type: none"> Loss of power for ## homes, ## hospital, etc. 	<ul style="list-style-type: none"> Health and Hospitals Safety and Security Communications Food, Water, Shelter
Fuel Provider POC Name (###) ###-#### Email@email.com	Fuel	<ul style="list-style-type: none"> Impact for public safety and citizens ability Loss of additional fuel for prolonged outages 	<ul style="list-style-type: none"> Safety and Security Transportation Communications Food, Water, Shelter
Energy Plant#2 POC Name (###) ###-#### Email@email.com	Power	<ul style="list-style-type: none"> Loss of power for ## homes, ## hospital, etc. 	<ul style="list-style-type: none"> Health and Hospitals Safety and Security Communications Food, Water, Shelter
Fuel Provider POC Name (###) ###-#### Email@email.com	Fuel	<ul style="list-style-type: none"> Impact for public safety and citizens ability Loss of additional fuel for prolonged outages 	<ul style="list-style-type: none"> Safety and Security Transportation Communications Food, Water, Shelter
Fuel Provider POC Name (###) ###-#### Email@email.com	Fuel	<ul style="list-style-type: none"> Impact for public safety and citizens ability Loss of additional fuel for prolonged outages 	<ul style="list-style-type: none"> Safety and Security Transportation Communications Food, Water, Shelter

Energy Stabilization Matrix

The below information indicates the threshold for incident stabilization of known infrastructure, existing redundancies, and known gaps.

Subcomponent	Critical Infrastructure	Stabilization	Known Redundancies	Known Gaps
Energy	Plant #1	<ul style="list-style-type: none"> Provide power to ##% of households 	<ul style="list-style-type: none"> Generator Fuel for up to 72 hours 	<ul style="list-style-type: none"> No emergency fueling contract in place for generator
	Feeder #2	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Fuel	Provider #1	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Reserves in state 	<ul style="list-style-type: none"> Third party transport 48–72-hour delay in delivery
	Provider #2	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

Attachment 2: Communications Infrastructure and Stabilization Matrix

Critical Infrastructure List

The following resources have been identified as Critical Infrastructure by the [City/County] Office of Emergency Management and applicable subject matter experts.

Critical Infrastructure	Subcomponent	Impact	Interdependent Lifelines
911 Dispatch POC Name (###) ###-#### Email@email.com	Computer Aided Dispatch	<ul style="list-style-type: none"> Impact to dispatchers 	<ul style="list-style-type: none">
Area Communications Infrastructure POC Name (###) ###-#### Email@email.com	Communications Infrastructure	<ul style="list-style-type: none"> Functionality of communications platform 	<ul style="list-style-type: none">
Notification System POC Name (###) ###-#### Email@email.com	Alerts, Warnings, and Messaging	<ul style="list-style-type: none"> Lack of mass communications system 	<ul style="list-style-type: none">
Provider POC Name (###) ###-#### Email@email.com	Responder Communications	<ul style="list-style-type: none"> Ability for responders to communicate with each other 	<ul style="list-style-type: none">

Stabilization Matrix

The below information indicates the threshold for incident stabilization of known infrastructure, existing redundancies, and known gaps.

Subcomponent	Critical Infrastructure	Stabilization	Known Redundancies	Known Gaps
911 Dispatch	CAD Systems	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
	Connectivity to Responders	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Responder Communications		<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
		<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

[Name of Jurisdiction] INFRASTRUCTURE RECOVERY TEMPLATE

Subcomponent	Critical Infrastructure	Stabilization	Known Redundancies	Known Gaps
Alerts, Warnings, and Messaging		•	•	•

Attachment 3: Transportation Infrastructure and Stabilization Matrix

Critical Infrastructure List

The following resources have been identified as Critical Infrastructure by the [City/County] Office of Emergency Management and applicable subject matter experts.

Critical Infrastructure	Subcomponent	Impact	Interdependent Lifelines
Mass Transit Provider POC Name (###) ###-#### Email@email.com	Mass Transit	<ul style="list-style-type: none"> Loss of transportation services for ### persons 	<ul style="list-style-type: none">
Airport POC Name (###) ###-#### Email@email.com	Aviation	<ul style="list-style-type: none"> Supply chain 	<ul style="list-style-type: none">
Rail System POC Name (###) ###-#### Email@email.com	Rail	<ul style="list-style-type: none"> Loss of transportation services for ### persons 	<ul style="list-style-type: none">
Provider POC Name (###) ###-#### Email@email.com		<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

Stabilization Matrix

The below information indicates the threshold for incident stabilization of known infrastructure, existing redundancies, and known gaps.

Subcomponent	Critical Infrastructure	Stabilization	Known Redundancies	Known Gaps
Rail	Station XX	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
	Feeder #2	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Aviation	Airport	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
		<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Mass Transit	Route #	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

Attachment 4: Water/Wastewater Infrastructure and Stabilization Matrix

Critical Infrastructure List

Water and wastewater systems may include multiple critical infrastructure categories that must be stabilized to ensure continued operation of water and wastewater systems, including the following:

- **Water Source:** This may be ground water, surface water, or a combination of the two.
- **Conveyance:** To bring water from a remote source to the treatment plant, community water systems may use pipes or open canals; the water may be pumped or gravity-fed.
- **Raw Water Storage:** Reservoirs or lakes hold water from the source before it is treated.
- **Treatment Plants:** A variety of physical and chemical treatments are applied depending on the contaminants detected in the raw water.
- **Finished water storage:** Treated water is stored before being distributed to customers.
- **Distribution system:** The network of pipes, tanks, pumps, and valves that conveys water to customers.
- **Monitoring system:** Most monitoring is conducted for conventional regulated and unregulated contaminants. Some utilities have sensors installed at critical points to monitor a range of physical properties such as water pressure and water quality.

All of the above critical infrastructure components may not be present in every jurisdiction, and local jurisdictions should add or remove categories as is applicable.

The following resources have been identified as Critical Infrastructure by the [City/County] Office of Emergency Management and applicable Subject Matter Experts.

Critical Infrastructure	Subcomponent	Impact	Interdependent Lifelines
Water Source POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> • Loss of potable water to ### households, business, etc. • Loss of drinking water for ### persons 	•
Water Conveyance— Pump Station #X POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> • Loss of potable water to ### households, business, etc. • Loss of drinking water for ### persons 	•

[Name of Jurisdiction] INFRASTRUCTURE RECOVERY TEMPLATE

Critical Infrastructure	Subcomponent	Impact	Interdependent Lifelines
Raw Water Storage Facility POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> Loss of potable water to ### households, business, etc. Loss of drinking water for ### persons 	•
Water Treatment Plant POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> Loss of potable water to ### households, business, etc. Loss of drinking water for ### persons 	•
Water Holding Facility POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> Loss of potable water to ### households, business, etc. Loss of drinking water for ### persons 	•
Distribution System POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> Loss of potable water to ### households, business, etc. Loss of drinking water for ### persons 	•
Monitoring System POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> Loss of potable water to ### households, business, etc. Loss of drinking water for ### persons 	•
Wastewater Treatment Plant #X POC Name (###) ###-#### Email@email.com	Water, Wastewater	<ul style="list-style-type: none"> Loss of potable water to ### households, business, etc. Loss of drinking water for ### persons 	•

Stabilization Matrix

The below information indicates the threshold for incident stabilization of known infrastructure, existing redundancies, and known gaps.

Subcomponent	Critical Infrastructure	Stabilization	Known Redundancies	Known Gaps
Water	Pump Station #X	•	•	•
		•	•	•
Wastewater	Wastewater Treatment Plant #X	•	•	•
		•	•	•

Attachment 5: Infrastructure Recovery Checklists

Community Lifeline Components Essential Elements of Information for Consideration

Lifeline	Component	Items for Consideration
Energy	Power grid	<ul style="list-style-type: none"> • Status of electrical power generation and distribution facilities • Number of people and locations without power • Estimated time to restoration of power • Number of electrically dependent persons (e.g., medical equipment) affected • Status of nuclear power plants within 10 miles • Status of natural gas and fuel pipelines in the affected area
	Temporary Power	<ul style="list-style-type: none"> • Status of critical facilities • Availability of temporary power resources
	Fuel	<ul style="list-style-type: none"> • Status of commercial fuel stations • Status of critical fuel facilities • Status of reserve specialized fuel (e.g., jet fuel, winterized diesel, etc.) • Responder fuel availability • Status of fuel supply line

Lifeline	Component	Items for Consideration
Transportation	Aviation	<ul style="list-style-type: none"> • Status of operation for area airports (open, closed, diversion status, ground stop, etc.) • Impacts to incoming and outgoing flights • Accessibility to the airport
	Highways and Roadways	<ul style="list-style-type: none"> • Status of major roads and highways • Status of critical and noncritical bridges • Status of maintenance and emergency repairs • Status of secondary routes • Need for debris removal
	Mass Transit	<ul style="list-style-type: none"> • Fleet maintenance • Fuel availability • Status of drivers • Status of other mass transit systems
	Railway	<ul style="list-style-type: none"> • Status of impact to rails and stations • Status of restoration of operations

[Name of Jurisdiction] INFRASTRUCTURE RECOVERY TEMPLATE

Lifeline	Component	Items for Consideration
		<ul style="list-style-type: none"> • Status of conditions impacting navigable routes
	Pipeline	<ul style="list-style-type: none"> • Status of natural gas and fuel pipelines

Lifeline	Component	Items for Consideration
Water	Potable Water	<ul style="list-style-type: none"> • Operating status of area hospitals, assisted living, and nursing homes • Operating status of points of distribution (PODs) • Operating status of supermarkets, neighborhood markets, and grocery stores • Operating status of restaurants • Impacts to food supply chain • Operating status of public and private water supply systems • Operating status of water control systems (e.g., dams, levees, storm drains) • Water health advisories
	Water Infrastructure	<ul style="list-style-type: none"> • Operating status of public wastewater systems and private septic systems • Operating status of wastewater processing facilities • Operating status of public and private water infrastructure (e.g., water mains) • Operating status of fire hydrants

Lifeline	Component	Items for Consideration
Communications	911 Dispatch	<ul style="list-style-type: none"> • Status of phone infrastructure and emergency line • Number of callers and availability of staff and facilities • Status of responder communications and equipment • Status of Computer Aided Dispatch (CAD) • Status of redundancy or roll over capabilities
	Infrastructure	<ul style="list-style-type: none"> • Status of telecommunications service • Reliability of internet service • Reliability of cellular service • Requirements for radio/satellite communication capability
	Alerts, Warnings and Messaging	<ul style="list-style-type: none"> • Status of the emergency alert system (e.g., television, radio, cable, cell) • Status of public safety radio communications • Status of ability to disseminate Integrated Public Address and Warning System (IPAWS)

[Name of Jurisdiction] INFRASTRUCTURE RECOVERY TEMPLATE

Lifeline	Component	Items for Consideration
		<ul style="list-style-type: none"> • Options for dissemination of information to the whole community • Status of the outdoor warning system • External affairs and media communication
	Responder Communications	<ul style="list-style-type: none"> • Status of EOC(s), dispatcher, and field responder communications • Availability and status of first responder communications equipment
	Financial Services	<ul style="list-style-type: none"> • Access to cash • Access to electronic payment • National economic impact