



NATURAL HAZARDS CHECKLIST **FLOODING**

CONTACTS

NAME	ORGANIZATION	CELL NUMBER AND EMAIL
	City/County Emergency Operations Center	
	Weather Forecasting	
	State/Provincial Emergency Operations Center	
	Power Utility	
	Natural Gas Utility	
	Telecommunications Providers	
	Water/Wastewater Agency Response Network (WARN)	
	Law Enforcement	
	Fire	
	Health Department	
	Debris Management Contractor	
	Incident Commander	
	Federal Emergency Management Agency Regional Office	
	Corps of Engineers	
	Other Government Agencies	
	Other Contractors	
	Mutual Aid Partners	
	Other	

PREPARATION

ACTION	DATE COMPLETED	BY WHOM
<p>Staffing Plans – essential workers:</p> <ul style="list-style-type: none"> • Identify essential workers for flooding response. • Call out processes for calling staff if phone network is down. • Develop rotation schedules, policies for extending work hours, overtime. • Confirm transportation plans to get essential staff to and from work. • Do you have mutual aid plans in existence to call upon neighboring communities to assist? • Ensure your staff are personally prepared with their 72-hour kits and they have family plans in place. • What are your plans regarding staff vacations? 		
Review and update your emergency plan.		
Ensure contact list is updated.		
Community Rating System to emergency plan.		
Review mutual aid agreements.		
Perform annual exercise with key stakeholders.		
Identify additional funding resources to assist with preparation measures.		
Determine priority transportation corridors and update annually, taking into consideration current construction status.		
<p>Review Asset Management Plan:</p> <ul style="list-style-type: none"> • Confirm all assets are mapped. • Understand flood risk of assets. • Critical infrastructure inventory and conditions documented. • Reference APWA Public Works Management Practices Manual Table of Contents. 		
<p>Conduct a hazard assessment analysis and review historic records to understand the past frequency and vulnerability of flooding. Consider mitigation efforts in advance (review recovery checklist):</p> <ul style="list-style-type: none"> • Flow capacity of rivers. • Predicted flow. • Floodplain. • Levee/berms. • Sea walls. • Flood gates. • Hydraulic structures. • Other. 		
<p>Develop a debris management plan and consider the following:</p> <ul style="list-style-type: none"> • Suspending recycling or sorting in advance. • What are you doing with white goods (fridges, stoves, freezers). • Household hazardous materials. • Construction waste. • Commercial waste (grocery stores, retail). • Furniture and debris. • Dead animals. • Temporary disposal sites. • Debris monitoring program. 		
<p>Coordinate with key local response partners such as your local emergency management agency and utility partners to determine:</p> <ul style="list-style-type: none"> • Roles and responsibilities of each agency. • Priorities on restoring system operations versus establishing alternative water resources. • Distribution channels for delivery of emergency water supplies to public. 		
Sign up for emergency alerts if your local emergency management agency has one available.		

PREPARATION (continued)

ACTION	DATE COMPLETED	BY WHOM
Perform annual maintenance on equipment.		
Inventory and order extra equipment and materials if required. Examples include: <ul style="list-style-type: none"> • Radios • First aid kits • Batteries • Chainsaws (sharpened) • Chemicals • Flashlights • Fuel • Fuses • Generators • Motors • Plywood • Sandbags • Tarps/rope • Sand • Rip Rap • HESCO baskets • Water Tubes • Fill Material 		
Utilize reference tools for resource planning such as https://rtilt.preptoolkit.fema.gov/public .		
Confirm procurement and rental agreements such as: <ul style="list-style-type: none"> • Lighting. • Barricades. • Construction contractors. • Cleaners. • De-watering. 		
Review contingency plans: <ul style="list-style-type: none"> • Employees working from home. • Fueling stations. • Municipal building operations. • Municipal building security. • Redundant communication systems (two-way radios, land lines, satellite phones, cell phones, internet). • Sanitary sewer facilities. • Water systems. 		
Review your crisis communications plan: <ul style="list-style-type: none"> • Develop communication channels that will be used (email, website, Facebook, Twitter, Instagram, Tik Tok). • Coordinate key messages with communications team. • Confirm messages that can be prepared in advance. • Confirm spokespeople. 		
Develop your public outreach materials: <ul style="list-style-type: none"> • What to do in event of evacuation • How to turn power off in your home • How to boil water if required • Street closures • How to pump water out of basement • What are your evacuation routes 		
Develop a business continuity/continuity of operations plan.		
Confirm your redundant communication systems.		
Develop disaster staging locations.		
Prioritize key transportation corridors, vital facilities and evacuation routes.		
Prepare backup traffic control plans and available resource allocation.		

PREPARATION (continued)

ACTION	DATE COMPLETED	BY WHOM
Develop priority ratings for street cleanup operations.		
Review legal authority process for closing roads.		
Ensure all vehicles are fully fueled and that fuel can manually be pumped in event of power outage.		
Hold utility coordination meeting to discuss emergency locate procedure.		
Have a strategy to drain sewer system, i.e., large pumps pre-positioned near sanitary to drive open channels.		
Top off raw water storage.		
Harden Critical Infrastructure.		
Protect Wells.		
Drinking Water/Wastewater Treatment Plants.		
Bridge inspections.		

RESPONSE

ACTION	DATE COMPLETED	BY WHOM
Report to Emergency Operations Center.		
Send Public Works representative to Incident Command Post – will need to answer following questions: <ul style="list-style-type: none"> • What equipment do you have available by type? • What equipment do you have to clear roadways for other first responders? • Where is it located? • How many staff do you have to operate? • How long will it take to complete the task(s)? • How can you do it quicker? 		
Acquire the following information from the Incident Commander: <ul style="list-style-type: none"> • Where and how will incident check-in, badging and accountability be conducted. • Location, type and severity of threats and hazards to responders. • Personal protective equipment (PPE) required to respond to affected area. • Timing to receiving additional PPE if required. • What is our chain of command for response? 		
Document all response activities and costs including resources used: <ul style="list-style-type: none"> • Details on GPS. • Location. • Time. • Photos. • Activity. • Record volunteer names and hours. 		
Activate crisis communications plan: <ul style="list-style-type: none"> • Maintain public communication. • Provide status updates on critical infrastructure. • Notify residents on boil water advisories. • Provide updates on distribution locations for emergency water. • Submit photos to communications team. • Encourage residents to upload photos. • Frequent staff updates. 		
Monitor all weather-related websites and apps: <ul style="list-style-type: none"> • Weather alerts • NOAA website • National Weather Service (NWS) • Environment Canada website • River Monitoring Reports • Ice Dam Report • Public utilities to enact Public Safety Power Shutoff • Field surveillance 		
Implement staffing schedule and transportation requirements.		
Implement access control for flooded infrastructure.		
Inspect erosion control permits.		
Minimize unnecessary travel.		
Activate evacuation plans if required.		
Activate mutual aid agreement if required.		
Start planning for recovery.		
Clear storm drains and set up sandbags to protect facilities.		
Check back-up equipment and facility systems such as controls and pumps are in working order.		
Protect exposed lines or pipes that may become vulnerable.		
Fill empty chemical storage tanks with water to prevent floating.		

RESPONSE (continued)

ACTION	DATE COMPLETED	BY WHOM
Wastewater utilities should consider their ability to empty holding tanks, ponds, lagoons to prepare for increase in flow and to minimize chance of a release.		
Communicate between emergency services on status of crash locations, closure of roads, stranded school/transit buses.		
Activate utility coordination committee and meet daily to minimize time required to respond to emergency locates.		
Monitor water quality.		
Ensure water pressure is maintained and isolate sections where it is not.		
Inspect manholes and pipelines in flood-prone areas for inflow and infiltration after the flood waters recede.		
Conduct damage assessment of equipment.		
Implement street priority system for cleanup operations.		
Set up public sandbagging locations and develop strategies to deploy sandbags and sand to prescribed locations.		
Contact all city construction contractors and ensure job sites are secured and operations have ceased.		
Arrange for emergency night work and consider street lighting may not be working.		
Implement debris management plan.		



RECOVERY

ACTION	DATE COMPLETED	BY WHOM
Complete damage assessments.		
Identify resources to maintain/restore infrastructure.		
Document all recovery activities.		
Continue public communications.		
Identify infrastructure deficiencies and coordinate reconstruction.		
Update asset management plan.		
Coordinate with state and federal funding agencies.		
Prepare post-incident action report.		
Identify mitigation and long-term adaptation measures: <ul style="list-style-type: none"> • Update debris management plan • Elevate critical utility assets above flood levels • Waterproof building access areas • Raise berm levels • Increase room for the river • Increase protection to electrical substation and transformers • Conduct bridge inspections 		