

HUD National Disaster Resiliency Competition

**Illinois Storm Ready – Weather or Not**

*Collaborating Solutions for Tomorrow's Climate*

**Exhibit A - Executive Summary**

During the Great Mississippi Flood of 1993, the town of Grafton, Illinois not only made the national evening news, it was the evening news as more than one national network broadcast the evening news live from Grafton, Illinois during the devastating peak days of the flood using the wide expanse of the flooded river, and the devastation of homes flooded to their rooftops, as a backdrop. In 2008 the Mississippi again swelled into Grafton and the national news networks again rushed their media trucks and news anchors to Grafton to cover a flood disaster, but in place of devastation found resiliency. Through floodplain mitigation buyouts, community engagement, and purposeful planning, Grafton had deliberately transformed its vulnerability into a community open space asset. While the news media found the Mississippi floodwaters at nearly the same elevation, no headline news devastation was to be found, only a community going about their normal everyday activities. That's resiliency, that's success, and that's the same kind of long term success that is possible in many other disaster impacted communities in Illinois. It is that same Grafton, Illinois deliberate determination that inspired the title of the Illinois' resiliency mission and grant application **Illinois Storm Ready – Weather or Not**.

While the state of Illinois is susceptible to tornados, blizzards, ice storms and earthquakes, the most widespread, repetitive, and significant risks to the entire state of Illinois is flooding. Illinois experiences flooding and flood damages annually. Illinois also acknowledges "urban flooding" as a major source of flood damages statewide. Urban flooding is the inundation of property in a built environment, particularly in more densely populated areas, caused by

rainfall overwhelming the capacity of drainage systems, such as storm sewers and includes (i) situations in which stormwater enters buildings through windows, doors, or other openings, (ii) water backup through sewer pipes or other fixtures, (iii) seepage through walls and floors, and (iv) the accumulation of water on property or public rights-of-way. Illinois is serving as a leader in the nation to address this very common source of impact to vulnerable populations. The devastating economic, environmental, and social tolls from chronic and repetitive flooding stem from vulnerabilities across our social, natural, and built systems.

To improve the health and vitality of Illinois communities, the City of Chicago, Cook County, DuPage County, and the State of Illinois have created a multi-jurisdictional, bipartisan partnership to build resilience in Northeastern Illinois. This Partnership also represents a diverse network of public, non-profit, and private partners from across the region. The Northeastern Illinois Resilience Partnership was founded on the principle that regional collaboration is essential for achieving long-term resilience. Similarly, the State of Illinois has also built partnerships with other planning commissions, organizations, and community partners across the rest of the state to help address unmet disaster needs, implement innovative multi-benefit storm ready resiliency projects that improve the quality of life for families in these communities, and create additional examples of resiliency success stories to educate and inspire other communities.

In addition to these federal, state and community collaborated storm ready resiliency projects in target communities, the State of Illinois through its Department of Natural Resources, Office of Water Resources and a state level resiliency team, intends to; 1) develop a statewide GIS data of structural flood risk assessments of every structure in or near the mapped floodplains of Illinois to help identify critical need, prioritize mitigation actions and update local hazard mitigation plans; 2) Implement urban flood risk reduction alternatives, including green

infrastructure measures recommended in the state's forthcoming Urban Flood Awareness Report (June 2015) and/or measures successfully developed by our other regional partners; 3) update statewide rainfall frequency data to reflect not only additional rainfall gage data but climate change factors; and 4) promote storm ready resiliency education statewide.

Through a series of specific pilots, the state, and the state as part of the Partnership, will demonstrate the effectiveness of innovative interventions, from on-the-ground projects to new finance mechanisms and policies. These pilot areas represent a true cross section of the typical characteristics across social, ecological, and built profiles found in Illinois. Successful interventions will be transferred to communities across the state, and over time the state will forge a new, healthier relationship with water.

This application highlights opportunities in 10 target areas for HUD to encourage and support resilience-building strategies across Illinois that will focus on vulnerable populations and engage local residents, businesses, and a variety of other stakeholders to deliver innovative, cost-effective, realistic, and implementable multiple benefits solutions to systemic problems and create a lasting resiliency legacy in Illinois. Help us write more Grafton, Illinois success stories, together.

**Exhibit B - Threshold Criteria**

**General Section**

The 31 census tracts were defined by HUD’s [CDBGRDR Appendix C](#) as most impacted and distressed areas are show on the [Interactive ArcGIS Map](#). Due to the widespread impacts of disasters throughout Illinois with an extensive amount of communities not able to submit applications, the State of Illinois reached out to all communities to provide the opportunity to improve their community under the state’s NDRC application submittal. As a result, the State of Illinois is submitting 10 target areas to improve those communities and strengthening its efforts making Illinois a safer and more resilient state.

**Eligible Applicant**

As per the NOFA, the State of Illinois is listed in Section III A, as an Eligible Applicant (#15). This list of applicants is also provided in [CDBGRDR Appendix A](#).

**Eligible County, Unmet Recovery Needs, and Most Impacted and Distressed**

Target Area 1: Carbondale

<p><b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster</p> <ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<p><b>Target Area Name: Carbondale</b></p>		
Criteria	Data Source	Data Documentation
<p><b>Housing damage due to eligible disaster:</b></p> <p><input type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b></p> <p><input checked="" type="checkbox"/> Serious damage to a minimum of 20 homes</p>	<p><input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b></p> <p><input type="checkbox"/> Local data:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b></li> <li><input type="checkbox"/> HUD agrees with its validity</li> </ul>	<p><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster		
<ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<b>Target Area Name: Carbondale</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Housing:</b> <input checked="" type="checkbox"/> A concentration of housing damage in a sub-county area due to the eligible disaster causing damage or serious damage to at least 10 percent of the homes located there	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBGDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<b>Target Area Name: Carbondale</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Infrastructure:</b> <input checked="" type="checkbox"/> There is damage to permanent public infrastructure from the qualifying disaster (i.e. FEMA Category C to G) that has not been repaired due to inadequate resources, in or serving the most impacted and distressed target area(s) <b>AND</b> <input checked="" type="checkbox"/> Describe the damage, location of the damage to permanent public infrastructure relative to the most impacted and distressed target area(s), the amount of funding required to complete repairs, and the reason there are inadequate funds <b>AND</b> <input checked="" type="checkbox"/> A minimum \$400,000 in unfunded permanent infrastructure repair needs	<input checked="" type="checkbox"/> An engineering report <b>OR</b> <input type="checkbox"/> a FEMA Project Worksheet(s) with an estimated repair amount  <b>AND</b> <input checked="" type="checkbox"/> A sources and uses statement for the repairs showing the funding shortfall (total repair costs may include the extra cost to repair this infrastructure resiliently) <b>AND</b> <input checked="" type="checkbox"/> Your explanation of why existing CDBG-DR resources, together with other funding sources, are inadequate to meet this repair need	<input checked="" type="checkbox"/> Link: <a href="#">Carbondale Engineering Report</a>  <input checked="" type="checkbox"/> Page number(s) in application:  Page 6

The Carbondale target area consists of census tract 17077010900 that includes the northwest portion of the City of Carbondale.

Eligible County: Carbondale, located in Jackson County, was declared a 2011 major disaster area in FEMA-1991-DR per [CDBGRDR Appendix B](#) page 9.

Most Impacted: The HUD [CDBGRDR Appendix C](#) page 3 listed the tract with 49 housing units with seriously damage and 63 total units damaged , meeting the “Most Impacted” characteristics for serious damage to housing units. Additionally, some roads have been repaired, but the local jurisdictions do not have the resources to make the roads more resilient. Problem areas that lack the resiliency to prevent future damage, loss of access, and eliminate safety risks

Distressed: The area meets the “Distressed” characteristic for concentration of housing damage since its listing in the HUD [CDBGRDR Appendix C](#).

Unmet Recovery Needs: The area of Carbondale is showing Unmet Recovery Needs of \$4,922,400 from two infrastructure projects that have repaired but not made more resilient because Federal, state, or other sources where not available. Meridian Road was overtopped by up to 15 feet of floodwater for six weeks closing off the only access to local business, requiring them to close and placing a financial strain on the company and its employees. Some repairs have been made to the roadway to ensure that it is safe, but the roadway was not elevated above the flood level which leaves the businesses and roadway at great risk during the next flood. A [Carbondale Engineering Report](#) with a cost estimates have been made available for documentation.

Fox Farm and Airport Roads provide access to the Airport from Route 51. Both of these roads were overtopped for 10 days during the 2011disaster. The Airport is home to a National

Guard facility and the storage location for southern Illinois's POD Hospital equipment. A [Carbondale Engineering Report](#) has been provided for making Airport Road able to remain open during the next flood event.

Grand Avenue and Walnut Street in Carbondale (State Route 13) also experiences major issues during heavy rain events. Storm water along these roadways flows into Piles Fork Creek. As the creek fills with storm water the storm sewers cannot empty into the creek. Once full, the creek starts backing up into the streets causing major issues. Route 13 is one of the busiest roads in all of southern Illinois. To be more resilient changes need to be made to the storm sewer and/or Piles Fork Creek needs to be cleaned, widened, or channeled to increase its capacity. An opportunity to increase the capacity of Piles Fork Creek and remove property from the flood plain exists just north of Route 13. A commercial property at 828 East Main in Carbondale lies just feet away from Piles Fork Creek. The structures should be removed from the floodplain and the land used for a more suitable purpose such as storm water detention or side channels for collecting/slowly releasing storm waters to alleviate flooding upstream.

Maintaining access from State Route 51 to the Southern Illinois Airport is a major priority. A bypass adds seven miles through congested areas of Carbondale which can easily add 15 minutes. These minutes can be crucial. The Airport is also a developing business park. These attributes are put at risk by the lack of resiliency the location offers due to the access roads. Route 51 is the western border of the census tract. Both roads intersect with Route 51 and extend east about one mile to the Airport. An engineering cost estimate has been provided for making Airport Road more resilient. Other community resiliency needs that have been unmet include preparedness planning by individuals, churches and businesses which is intensified by the percentage of disadvantaged populations with increased unemployment, poverty, and poor health

outcomes in this area. The area also lacks connections to emergency response resources and shelters. Reed Station Mobile Home Park is being acquired through a Hazard Mitigation Grant, but there will not be funds to convert the vacant floodplain property into a more resilient use such as a wetland.

Target Area 2: Alexander

<b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Alexander</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Housing damage due to eligible disaster:</b> <input checked="" type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b> <input checked="" type="checkbox"/> Serious damage to a minimum of 20 homes	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with its validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBG RDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Alexander</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Disaster impacted low- and moderate-income households:</b> <input checked="" type="checkbox"/> More than 50 percent of people in the target area are at less than 80 percent of the area median income	<input checked="" type="checkbox"/> CDBG low- and moderate-income summary data	<input checked="" type="checkbox"/> Link: <a href="#">CDBG RDR Appendix D</a>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - Response must include at least one criterion - For each criteria category selected, the corresponding data source and data documentation response must be provided		
<b>Target Area Name: Alexander</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Disaster impacted a federal target area or economically fragile area:</b> (must choose at least one to meet this criteria) <input type="checkbox"/> Tribal area <input type="checkbox"/> HUD Promise Zone site <input type="checkbox"/> HUD Strong Cities Strong Communities site <b>AND/OR</b> <input checked="" type="checkbox"/> Has an unemployment rate more than 125 percent of the national average unemployment rate	<input checked="" type="checkbox"/> Demonstrate this characteristic and provide supporting documentation	<input checked="" type="checkbox"/> Link: <a href="#">IDES Unemployment</a>  <input type="checkbox"/> Page number(s) in application:
<b>Housing:</b> <input checked="" type="checkbox"/> A concentration of housing damage in a sub-county area due to the eligible disaster causing damage or serious damage to at least 10 percent of the homes located there	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b> - Response must include at least one criterion - For each criteria category selected, the corresponding data source and data documentation response must be provided		
<b>Target Area Name: Alexander</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Alexander</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Infrastructure:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> There is damage to permanent public infrastructure from the qualifying disaster (i.e. FEMA Category C to G) that has not been repaired due to inadequate resources, in or serving the most impacted and distressed target area(s) <b>AND</b></li> <li><input checked="" type="checkbox"/> Describe the damage, location of the damage to permanent public infrastructure relative to the most impacted and distressed target area(s), the amount of funding required to complete repairs, and the reason there are inadequate funds <b>AND</b></li> <li><input checked="" type="checkbox"/> A minimum \$400,000 in unfunded permanent infrastructure repair needs</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> An engineering report <b>OR</b> <input type="checkbox"/> a FEMA Project Worksheet(s) with an estimated repair amount</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> A sources and uses statement for the repairs showing the funding shortfall (total repair costs may include the extra cost to repair this infrastructure resiliently)</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Your explanation of why existing CDBG-DR resources, together with other funding sources, are inadequate to meet this repair need</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">Alexander Engineering Report</a></li> <li><input type="checkbox"/> Page number(s) in application:</li> </ul>

The Alexander target area consists of three census tracts (17003957700, 170039557800, and 17003957900) that include the communities of Cairo, Thebes and a highly populated unincorporated area known as Olive Branch.

Eligible County: Cairo, Thebes and Olive Branch are in Alexander County, which was declared a 2011 major disaster area in FEMA-1991-DR per [CDBGGRDR Appendix B](#) page 9.

Most Impacted: The HUD [CDBGGRDR Appendix C](#) page 3 listed all three census tracts with a total 222 seriously damaged housing units and 717 damaged units, meeting the “Most Impacted” characteristics for serious damage and units damaged to housing units.

Distressed: The area also meets the “Distressed” characteristic for concentration of housing damage since its listing in the [CDBGGRDR Appendix C](#), the Low to Moderate Income as shown in [CDBGGRDR Appendix D](#) and for an economically fragile area since the county

employment rate is 8.5% which exceeds the national average (5.6%) by more than 125% (5.6% x 1.25 = 7%) as shown from [IDES Unemployment](#).

Unmet Recovery Needs: The target area within Alexander County has several Unmet Recovery Needs in the area of public infrastructure totaling \$500,000 in unavailable funding as documented in the [Alexander Engineering Report](#). The Alexander County Ambulance Base is located within the FEMA Buyout area and is scheduled for buyout and demolition provided funding can be acquired to construct a new ambulance base outside of the affected flood area. This will greatly improve the community’s resiliency and service provision. However, there are no alternative funds available to provide for the construction of a new base once the buyout is complete. The construction of the new base on property acquired with buyout funds is estimated at \$300,000. Finally, the Cairo Drainage District has been partnering with the Corps of Engineers to implement a project involving the flattening of the slopes on the levees around and near the City of Cairo. This project will be funded primarily by the Corp of Engineers and is estimated at \$1,000,000. However, the Cairo Drainage District must provide the rights of way to accomplish this project. There are no current funding sources to assist with this portion of the project, which will require an additional \$150,000. Without the provision of the rights of way, this project cannot proceed. The work is necessary to not only recover from damage done to the levees in 2011, but to also improve their function and resiliency during future flooding events.

Target Area 3: Brookport

<p><b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster</p> <ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<p><b>Target Area Name: Brookport</b></p>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>

<p><b>Housing damage due to eligible disaster:</b></p> <p><input checked="" type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b></p> <p><input checked="" type="checkbox"/> Serious damage to a minimum of 20 homes</p>	<p><input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b></p> <p><input type="checkbox"/> Local data:</p> <p><input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b></p> <p><input type="checkbox"/> HUD agrees with its validity</p>	<p><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>
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**MOST DISTRESSED CHARACTERISTICS:** considers stress or deficit factors *prior* to the Qualified Disaster

- *Response must include at least one criterion*
- *For each criteria category selected, the corresponding data source and data documentation response must be provided*

<b>Target Area Name: Brookport</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Disaster impacted low- and moderate-income households:</b></p> <p><input checked="" type="checkbox"/> More than 50 percent of people in the target area are at less than 80 percent of the area median income</p>	<p><input checked="" type="checkbox"/> CDBG low- and moderate-income summary data</p>	<p><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix D</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>
<p><b>Housing:</b></p> <p><input checked="" type="checkbox"/> A concentration of housing damage in a sub-county area due to the eligible disaster causing damage or serious damage to at least 10 percent of the homes located there</p>	<p><input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b></p> <p><input type="checkbox"/> Local data:</p> <p><input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b></p> <p><input type="checkbox"/> HUD agrees with validity</p>	<p><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

**UNMET RECOVERY NEED**

- *Response must include at least one criterion*
- *For each criteria category selected, the corresponding data source and data documentation response must be provided*

<b>Target Area Name: Brookport</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Brookport</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Housing:</b></p> <p><input type="checkbox"/> Twenty or more households are still displaced from housing due to the disaster and will not be served by existing programs</p> <p><b>OR</b></p> <p><input checked="" type="checkbox"/> There are twenty or more still damaged housing units in or near a most impacted and distressed sub-county target area that were damaged by the disaster and cannot be repaired with existing programs</p>	<p><b>Currently running</b> a CDBG-DR or other recovery housing program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Analysis that shows the program waiting list <b>AND</b></li> <li><input type="checkbox"/> A reasonable estimate of aggregated average unmet repair needs exceeds the existing CDBG-DR fund available.</li> </ul> <p><b>Not currently</b> running a CDBG-DR or other housing recovery program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Briefly explain why prior allocations of CDBG-DR funding, together with other funding sources, are inadequate to provide housing <b>AND:</b></li> <li><input type="checkbox"/> Provide recent emergency management data indicating households are still displaced from the disaster</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Provide methodologically sound “windshield survey” of the most impacted and distressed target area conducted since January 2014 <b>AND</b></li> <li><input checked="" type="checkbox"/> A list of 20 addresses of units identified with remaining damage</li> <li><input checked="" type="checkbox"/> At least 9 of these addresses confirming (i) the damage is due to the disaster and (ii) they have inadequate resources from insurance/FEMA/SBA for completing repairs</li> </ul>	<p><input checked="" type="checkbox"/> Link:</p> <p><a href="#">Brookport Windshield Surveys</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

The Brookport target area consists of three census tracts (17127970200, 17127970300, and 1717970400) that include the communities of Brookport and Metropolis.

Eligible County: Brookport and Metropolis are in Massac County, which was declared a 2011 and a 2013 major disaster area in FEMA-1991-DR and FEMA-4157-DR per [CDBGDR Appendix B](#) page 10.

Most Impacted: The HUD [CDBGDR Appendix C](#) page 3 listed the tracts with a total 203 seriously damaged housing units and 407 damaged units, meeting the “Most Impacted” characteristics for serious damage and units damaged to housing units.

Distressed: The area also meets the “Distressed” characteristic for concentration of housing damage since its listing in the HUD [CDBGDR Appendix C](#) and the Low to Moderate Income as shown in [CDBGDR Appendix D](#).

Unmet Recovery Needs: The Brookport target area has 44 housing unit in Brookport with Unmet Recovery Needs. [Brookport Windshield Surveys](#) were completed for these structures in March of 2015 by each homeowner.

Massac County, the City of Brookport in particular, is in the process of applying for CDBG-DR funding that will assist with the rehabilitation, repair, and construction of damaged, owner occupied housing units locates in the City of Brookport and the surrounding Massac County area that were damaged by the November 17, 2013 tornado. This allocation will address housing rehabilitation needs of low to moderate income, homeowner occupied housing units. Even with significant FEMA repair funds and the potential CDBG-DR housing rehabilitation funds, there are houses that remain in need of repair and reconstruction. There are approximately 6 housing units in need of repair that cannot utilize CDBG-DR funds since they are rental units. These units provide housing for low to moderate income families. These units are primarily located within the City limits of the City of Brookport. Funds available through alternative funding sources are not available for the repair of rental units. The lack of rental housing for low to moderate income families with the City of Brookport has resulted in population decline and hampers their ability to grow economically and become a disaster resilient community.

Target Area 4: Pulaski

<p><b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster</p> <ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<p><b>Target Area Name: Pulaski</b></p>		
Criteria	Data Source	Data Documentation
<p><b>Housing damage due to eligible disaster:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b></li> <li><input checked="" type="checkbox"/> Serious damage to a minimum of 20 homes</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b></li> <li><input type="checkbox"/> Local data:                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b></li> <li><input type="checkbox"/> HUD agrees with its validity</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a></li> <li><input type="checkbox"/> Page number(s) in application:</li> </ul>

<p><b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster</p> <ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<p><b>Target Area Name: Pulaski</b></p>		
Criteria	Data Source	Data Documentation
<p><b>Disaster impacted low- and moderate-income households:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> More than 50 percent of people in the target area are at less than 80 percent of the area median income</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> CDBG low- and moderate-income summary data</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix D</a></li> <li><input type="checkbox"/> Page number(s) in application:</li> </ul>
<p><b>Disaster impacted a federal target area or economically fragile area:</b> (must choose at least one to meet this criteria)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Tribal area</li> <li><input type="checkbox"/> HUD Promise Zone site</li> <li><input type="checkbox"/> HUD Strong Cities Strong Communities site</li> </ul> <p><b>AND/OR</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Has an unemployment rate more than 125 percent of the national average unemployment rate</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Demonstrate this characteristic and provide supporting documentation</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">IDES Unemployment</a></li> <li><input type="checkbox"/> Page number(s) in application:</li> </ul>

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Pulaski</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Housing:</b> <input checked="" type="checkbox"/> A concentration of housing damage in a sub-county area due to the eligible disaster causing damage or serious damage to at least 10 percent of the homes located there	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b> - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Pulaski</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Pulaski</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Housing:</b></p> <p><input type="checkbox"/> Twenty or more households are still displaced from housing due to the disaster and will not be served by existing programs</p> <p><b>OR</b></p> <p><input checked="" type="checkbox"/> There are twenty or more still damaged housing units in or near a most impacted and distressed sub-county target area that were damaged by the disaster and cannot be repaired with existing programs</p>	<p><b>Currently running</b> a CDBG-DR or other recovery housing program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Analysis that shows the program waiting list <b>AND</b></li> <li><input type="checkbox"/> A reasonable estimate of aggregated average unmet repair needs exceeds the existing CDBG-DR fund available.</li> </ul> <p><b>Not currently</b> running a CDBG-DR or other housing recovery program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Briefly explain why prior allocations of CDBG-DR funding, together with other funding sources, are inadequate to provide housing <b>AND:</b></li> <li><input type="checkbox"/> Provide recent emergency management data indicating households are still displaced from the disaster</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Provide methodologically sound “windshield survey” of the most impacted and distressed target area conducted since January 2014 <b>AND</b></li> <li><input checked="" type="checkbox"/> A list of 20 addresses of units identified with remaining damage</li> <li><input checked="" type="checkbox"/> At least 9 of these addresses confirming (i) the damage is due to the disaster and (ii) they have inadequate resources from insurance/FEMA/SBA for completing repairs</li> </ul>	<p><input checked="" type="checkbox"/> Link:</p> <p><a href="#">Pulaski Windshield Survey</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

The Pulaski target area consists of census tract 17153971100 that include the communities of Brookport and Metropolis.

Eligible County: Mounds, Mounds City, Pulaski and Ullin are in Pulaski County, which was declared 2011 major disaster area in FEMA-1991-DR per [CDBGDR Appendix B](#) page 11.

Most Impacted: The HUD [CDBGDR Appendix C](#) page 4 listed the tracts with a total 45 seriously damaged housing units and 231 damaged units, meeting the “Most Impacted” characteristics for serious damage and units damaged to housing units.

Distressed: The area also meets the “Distressed” characteristic for concentration of housing damage since its listing in the HUD [CDBGDR Appendix C](#), the Low to Moderate Income as shown in [CDBGDR Appendix D](#) and for an economically fragile area since the county employment rate is 7.7% which exceeds the national average (5.6%) by more than 125% ( $5.6\% \times 1.25 = 7\%$ ) as shown from [IDES Unemployment](#).

The target area in Pulaski County has a high incidence of unemployment, high percentages of poverty, and a large percentage of below standard housing. The area has also been plagued by continual population decline over the past 20 years. With the inability of housing units damaged through the 2011 flood to be repaired and/or replaced, the already limited quality housing stock has dwindled.

Unmet Recovery Needs: The Pulaski target area has 20 housing unit in Pulaski and Ullin with Unmet Recovery Needs as determined during the [Pulaski Windshield Survey](#). Nine homes surveys were completed for these structures in March of 2015 by each homeowner.

Pulaski County did not receive any prior CDBG-DR funding allocations. This is primarily due to the rural nature of the target area. These allocations would typically address housing rehabilitation needs in the community if available. FEMA funding assisted with many of the damaged housing units in need of repairs immediately following the disaster. Even with FEMA assistance to homeowners, there are houses that remain in need of repair, especially in the isolated, rural areas that experienced severe flooding. There are approximately 25 homes, which are mixture of both owner occupied and rental units. These units are widely dispersed throughout the target area with varying degrees of remaining damage. Funds available through alternative funding sources are not available for units not located within a concentrated area, with no funds available for the repair of rental units.

Target Area 5: Washington

<p><b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster</p> <ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<p><b>Target Area Name: Washington</b></p>		
Criteria	Data Source	Data Documentation
<p><b>Housing damage due to eligible disaster:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b></li> <li><input checked="" type="checkbox"/> Serious damage to a minimum of 20 homes</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b></li> <li><input type="checkbox"/> Local data:                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b></li> <li><input type="checkbox"/> HUD agrees with its validity</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a></li> <li><input type="checkbox"/> Page number(s) in application:</li> </ul>

<p><b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster</p> <ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<p><b>Target Area Name: Washington</b></p>		
Criteria	Data Source	Data Documentation
<p><b>Housing:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> A concentration of housing damage in a sub-county area due to the eligible disaster causing damage or serious damage to at least 10 percent of the homes located there</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b></li> <li><input type="checkbox"/> Local data:                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b></li> <li><input type="checkbox"/> HUD agrees with validity</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a></li> <li><input type="checkbox"/> Page number(s) in application:</li> </ul>

<p><b>UNMET RECOVERY NEED</b></p> <ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<p><b>Target Area Name: Washington</b></p>		
Criteria	Data Source	Data Documentation

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Washington</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Housing:</b></p> <p><input type="checkbox"/> Twenty or more households are still displaced from housing due to the disaster and will not be served by existing programs</p> <p><b>OR</b></p> <p><input checked="" type="checkbox"/> There are twenty or more still damaged housing units in or near a most impacted and distressed sub-county target area that were damaged by the disaster and cannot be repaired with existing programs</p>	<p><b>Currently running</b> a CDBG-DR or other recovery housing program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Analysis that shows the program waiting list <b>AND</b></li> <li><input type="checkbox"/> A reasonable estimate of aggregated average unmet repair needs exceeds the existing CDBG-DR fund available.</li> </ul> <p><b>Not currently</b> running a CDBG-DR or other housing recovery program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Briefly explain why prior allocations of CDBG-DR funding, together with other funding sources, are inadequate to provide housing <b>AND:</b></li> <li><input type="checkbox"/> Provide recent emergency management data indicating households are still displaced from the disaster</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Provide methodologically sound “windshield survey” of the most impacted and distressed target area conducted since January 2014 <b>AND</b></li> <li><input checked="" type="checkbox"/> A list of 20 addresses of units identified with remaining damage</li> <li><input checked="" type="checkbox"/> At least 9 of these addresses confirming (i) the damage is due to the disaster and (ii) they have inadequate resources from insurance/FEMA/SBA for completing repairs</li> </ul>	<p><input checked="" type="checkbox"/> Link:</p> <p><a href="#">Washington Windshield Survey</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

The Washington target area consists of two census blocks (17179022200 and 17179022300) that include the communities of Washington.

Eligible County: Washington is in Tazewell County, which was declared a 2013 major disaster in FEMA-4157-DR per [CDBGRDR Appendix B](#) page 11.

Most Impacted: The HUD [CDBGRDR Appendix C](#) page 4 listed the tracts with a total 145 seriously damaged housing units and 197 damaged units, meeting the “Most Impacted” characteristics for serious damage and units damaged to housing units.

Distressed: The area also meets the “Distressed” characteristic for concentration of housing damage since its listing in the HUD [CDBGRDR Appendix C](#).

The Washington Estates neighborhood was devastated by an EF-4 tornado on November 17, 2013. About 130 homes and three apartment buildings in that subdivision alone were destroyed. Additionally, two other apartment buildings and numerous homes suffered major damage. The rebuilding of that area has been positive but there are still a few dozen lots that are vacant and show the damage from the tornado. Further, the neighborhood was the oldest that was impacted by the tornado and has aging infrastructure and lacks sidewalks on most streets.

Unmet Recovery Needs: The Washington target area has 28 housing unit in Washington with Unmet Recovery Needs was determined during the [Washington Windshield Survey](#). 16 Homes surveys were completed for these structures in February of 2015 by each homeowner.

While Appendix C data indicates there were 197 housing units damaged and 144 of those sustained serious damage, this is only a small snapshot of the true damage. These numbers were only those that registered for FEMA to possibly receive Individual Assistance funding. It does not include all of those housing units that were directly impacted. City of Washington building permit data shows that more than 40 percent of those housing units have not begun reconstruction. Furthermore, a windshield survey of the Washington Estates subdivision shows more than 28 of the lots have yet to see construction commence. This includes three lots that formerly had apartment buildings totaling 36 units plus six other rental lots. These vacant lots can be found on the following streets: Bobolink, Eagle, Elgin, Fayette, Flossmoor, Gillman, and Hawk.

#### Target Area 6: Roanoke

<p><b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster</p> <ul style="list-style-type: none"><li>- <i>Response must include at least one criterion</i></li><li>- <i>For each criteria category selected, the corresponding data source and data documentation</i></li></ul>
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<i>response must be provided</i>		
<b>Target Area Name: Roanoke</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Housing damage due to eligible disaster:</b> <input type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b> <input checked="" type="checkbox"/> Serious damage to a minimum of 20 homes	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with its validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster		
<ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<b>Target Area Name: Roanoke</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Housing:</b> <input checked="" type="checkbox"/> A concentration of housing damage in a sub-county area due to the eligible disaster causing damage or serious damage to at least 10 percent of the homes located there	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<b>Target Area Name: Roanoke</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Roanoke</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Housing:</b></p> <p><input type="checkbox"/> Twenty or more households are still displaced from housing due to the disaster and will not be served by existing programs <b>OR</b></p> <p><input checked="" type="checkbox"/> There are twenty or more still damaged housing units in or near a most impacted and distressed sub-county target area that were damaged by the disaster and cannot be repaired with existing programs</p>	<p><b>Currently running</b> a CDBG-DR or other recovery housing program:</p> <p><input type="checkbox"/> Analysis that shows the program waiting list <b>AND</b></p> <p><input type="checkbox"/> A reasonable estimate of aggregated average unmet repair needs exceeds the existing CDBG-DR fund available.</p> <p><b>Not currently</b> running a CDBG-DR or other housing recovery program:</p> <p><input type="checkbox"/> Briefly explain why prior allocations of CDBG-DR funding, together with other funding sources, are inadequate to provide housing <b>AND:</b></p> <p><input type="checkbox"/> Provide recent emergency management data indicating households are still displaced from the disaster</p> <p><b>OR</b></p> <p><input checked="" type="checkbox"/> Provide methodologically sound “windshield survey” of the most impacted and distressed target area conducted since January 2014 <b>AND</b></p> <p><input checked="" type="checkbox"/> A list of 20 addresses of units identified with remaining damage</p> <p><input type="checkbox"/> At least 9 of these addresses confirming (i) the damage is due to the disaster and (ii) they have inadequate resources from insurance/FEMA/SBA for completing repairs</p>	<p><input checked="" type="checkbox"/> Link: <a href="#">Roanoke Windshield Survey</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

UNMET RECOVERY NEED		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
Target Area Name: Roanoke		
Criteria	Data Source	Data Documentation
<p><b>Economic Revitalization:</b></p> <p><input checked="" type="checkbox"/> There are continuing unmet economic revitalization recovery needs due to the disaster in or near the most impacted and distressed sub-county target area(s) that cannot be addressed with existing resources, including CDBG-DR funds already allocated <b>AND</b></p> <p><u><b>AND demonstrate one of the following:</b></u></p> <p><input checked="" type="checkbox"/> A minimum of 5 businesses with remaining repair needs;</p> <p><input type="checkbox"/> Business revenues continued to be decreased by 10 percent or more relative to revenues prior to the disaster for one or more modest-sized employers (10 or more employees) due to the disaster; <b>OR</b></p> <p><input type="checkbox"/> Three or more smaller businesses show revenues 10 percent less than prior revenues</p> <p><b>AND</b></p> <p><input checked="" type="checkbox"/> Provide a narrative statement describing the extent of those needs and how the needs are connected with the disaster and the most impacted and distressed sub-county target area</p>	<p><input checked="" type="checkbox"/> <i>Unmet repair needs narrative for businesses:</i></p> <p><input checked="" type="checkbox"/> “Windshield survey” showing a minimum of 5 businesses with remaining repair needs <b>AND</b></p> <p><input checked="" type="checkbox"/> A survey of 5 business owners confirming damage due to the disaster and repairs not completed due to not receiving adequate resources from insurance and (if applicable) other federal funds <b>AND</b></p> <p><input checked="" type="checkbox"/> Addresses of businesses with continuing needs</p> <p><b>OR</b></p> <p><input type="checkbox"/> <i>Decreased revenues narrative for business(es):</i></p> <p><input type="checkbox"/> Analysis by a reputable public or private source showing continuing economic damage to the target area within a HUD-identified most impacted county due to the disaster or a survey of business(es) who provide (i) number of employees before the storm and current; (ii) total gross revenues in year before disaster and total gross revenues in most recent year; and (iii) a description of how the reduction in revenues is related to the disaster <b>AND</b></p> <p><input type="checkbox"/> One modest size employer (10 or more employees) or three smaller businesses (fewer than 10 employees) must show most recent year total gross revenues of 10 percent less than the year before the disaster and there needs to be a clean connection to the disaster <b>AND</b></p> <p><input type="checkbox"/> Names and addresses of impacted businesses</p>	<p><input checked="" type="checkbox"/> Link: <a href="#">Roanoke Windshield Survey</a></p> <p><input checked="" type="checkbox"/> Page number(s) in application: Page 25-26</p>

The Roanoke target area consists of one census block (17203030300) that includes the Village of Roanoke.

Eligible County: The Village of Roanoke is in Woodford County, which was declared a 2013 major disaster in FEMA-4116-DR per [CDBGRDR Appendix B](#) page 11.

Most Impacted: The HUD [CDBGRDR Appendix C](#) page 4 listed the tracts with a total 26 seriously damaged housing units and 82 damaged units, meeting the “Most Impacted” characteristics for serious damage to housing units.

Distressed: The area also meets the “Distressed” characteristic for concentration of housing damage since its listing in the [CDBGRDR Appendix C](#).

On April 17, 2013 the West Panther Creek and its connecting field drainage ditches that connect to the creek began flooding; some areas had up to 4 feet of water which affected 55 homes and 7 businesses resulting in \$2.4 million in expenses for cleanup and damages of which 10% were covered by insurance claims. The Village of Roanoke incurred damages to 9 facilities or structures resulting in \$430,000 in expenses for cleanup and damages of which 31% were covered by insurance claims.

Unmet Recovery Needs: The Roanoke target area has 5 businesses, 5 government buildings and 26 housing units with Unmet Recovery Needs as determined from the [Roanoke Windshield Survey](#). Homes surveys were completed for these structures in March of 2015 by each homeowner.

Of the homes, businesses and government structures, this was not the first time experiencing a flood for 26 of the structures. Twenty-three houses in the Low and Moderate Income Range were affected by the flooding and those homeowners cannot afford to move out of a residence that they have put equity in for a number of years. An American Legion Building

(used for large meetings, village emergency shelter, village caucuses, elections and other civic functions) and B.J. Fehr’s Welding Shop as well as the Roanoke Village Hall, Offices, Ambulance Building and Storage Buildings were also flooded. After the cleanup and semi-recovery from the flooding, many basements and interior walls had to be repaired or replaced and several basement walls had to be replaced. Two houses and the American Legion Building were abandoned.

Target Area 7: Spring Valley

<b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Spring Valley</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Infrastructure:</b> <input checked="" type="checkbox"/> Damage from the eligible disaster to permanent infrastructure in a sub-county area estimated at \$2 million or greater	<input type="checkbox"/> An engineering report <b>OR</b> <input checked="" type="checkbox"/> FEMA Project Worksheet with an estimated repair amount <b>OR</b> <input type="checkbox"/> Other evidence of an estimate of expenditures to make repairs	<input checked="" type="checkbox"/> Link: <u>Spring Valley FEMA Worksheet</u>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Spring Valley</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Disaster impacted low- and moderate-income households:</b> <input checked="" type="checkbox"/> More than 50 percent of people in the target area are at less than 80 percent of the area median income	<input checked="" type="checkbox"/> CDBG low- and moderate-income summary data	<input checked="" type="checkbox"/> Link: <u>CDBGRDR Appendix D</u>  <input type="checkbox"/> Page number(s) in application:
<b>Disaster impacted a federal target area or economically fragile area:</b> (must choose at least one to meet this criteria) <input type="checkbox"/> Tribal area <input type="checkbox"/> HUD Promise Zone site <input type="checkbox"/> HUD Strong Cities Strong Communities site <b>AND/OR</b> <input checked="" type="checkbox"/> Has an unemployment rate more than 125 percent of the national average unemployment rate	<input checked="" type="checkbox"/> Demonstrate this characteristic and provide supporting documentation	<input checked="" type="checkbox"/> Link: <u>IDES Unemployment</u>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<b>Target Area Name: Spring Valley</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Infrastructure:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> There is damage to permanent public infrastructure from the qualifying disaster (i.e. FEMA Category C to G) that has not been repaired due to inadequate resources, in or serving the most impacted and distressed target area(s) <b>AND</b></li> <li><input checked="" type="checkbox"/> Describe the damage, location of the damage to permanent public infrastructure relative to the most impacted and distressed target area(s), the amount of funding required to complete repairs, and the reason there are inadequate funds <b>AND</b></li> <li><input checked="" type="checkbox"/> A minimum \$400,000 in unfunded permanent infrastructure repair needs</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> An engineering report <b>OR</b> <input checked="" type="checkbox"/> a FEMA Project Worksheet(s) with an estimated repair amount</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> A sources and uses statement for the repairs showing the funding shortfall (total repair costs may include the extra cost to repair this infrastructure resiliently)</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Your explanation of why existing CDBG-DR resources, together with other funding sources, are inadequate to meet this repair need</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">Spring Valley Engineering Report</a></li> <li><input checked="" type="checkbox"/> Page number(s) in application: Page 28</li> </ul>

The Bureau target area consists of census tract 17011965200 that includes the communities of Spring Valley.

Eligible County: Spring Valley is in Bureau County which was declared a 2011 major disaster in FEMA-1960-DR and a 2013 major disaster in FEMA-4116-DR per [CDBGDR Appendix B](#) page 9.

Most Impacted: The community of Spring Valley received \$2,559,963 in damages to its wastewater treatment plant as a result of the April 2011 event meeting the infrastructure threshold in the “Most Impacted” category. A [Spring Valley FEMA Worksheet](#) is provided from documentation.

Distressed: The area meets the “Distressed” characteristic for Low to Moderate Income as shown in [CDBG RDR Appendix D](#) and for an economically fragile area since the county employment rate is 7.4% which exceeds the national average (5.6%) by more than 125% (5.6% x 1.25 = 7%) as shown from [IDES Unemployment](#).

Unmet Recovery Needs: The Bureau target area has \$639,991 in unmet recovery need according to the [Spring Valley FEMA Worksheet](#) for the April 2013 event. The Spring Valley Wastewater Treatment Plant is critical infrastructure to not only serve the vulnerable population but is a critical component to their public health. Other funding sources beyond FEMA are not available resulting in inadequate funding for the repair.

Target Area 8: Marseilles

<b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster - Response must include at least one criterion - For each criteria category selected, the corresponding data source and data documentation response must be provided		
<b>Target Area Name: Marseilles</b>		
Criteria	Data Source	Data Documentation
<b>Housing damage due to eligible disaster:</b> <input checked="" type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b> <input checked="" type="checkbox"/> Serious damage to a minimum of 20 homes	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with its validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBG RDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - Response must include at least one criterion - For each criteria category selected, the corresponding data source and data documentation response must be provided		
<b>Target Area Name: Marseilles</b>		
Criteria	Data Source	Data Documentation
<b>Disaster impacted low- and moderate-income households:</b> <input checked="" type="checkbox"/> More than 50 percent of people in the target area are at less than 80 percent of the area median income	<input checked="" type="checkbox"/> CDBG low- and moderate-income summary data	<input checked="" type="checkbox"/> Link: <a href="#">CDBG RDR Appendix D</a>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - Response must include at least one criterion - For each criteria category selected, the corresponding data source and data documentation response must be provided		
<b>Target Area Name: Marseilles</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Disaster impacted a federal target area or economically fragile area:</b> (must choose at least one to meet this criteria) <input type="checkbox"/> Tribal area <input type="checkbox"/> HUD Promise Zone site <input type="checkbox"/> HUD Strong Cities Strong Communities site <b>AND/OR</b> <input checked="" type="checkbox"/> Has an unemployment rate more than 125 percent of the national average unemployment rate	<input checked="" type="checkbox"/> Demonstrate this characteristic and provide supporting documentation	<input checked="" type="checkbox"/> Link: <a href="#">IDES Unemployment</a>  <input type="checkbox"/> Page number(s) in application:
<b>Housing:</b> <input checked="" type="checkbox"/> A concentration of housing damage in a sub-county area due to the eligible disaster causing damage or serious damage to at least 10 percent of the homes located there	<input checked="" type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input type="checkbox"/> Local data: <input type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input type="checkbox"/> HUD agrees with validity	<input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR Appendix C</a>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b> - Response must include at least one criterion - For each criteria category selected, the corresponding data source and data documentation response must be provided		
<b>Target Area Name: Marseilles</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Marseilles</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Housing:</b></p> <p><input type="checkbox"/> Twenty or more households are still displaced from housing due to the disaster and will not be served by existing programs <b>OR</b></p> <p><input checked="" type="checkbox"/> There are twenty or more still damaged housing units in or near a most impacted and distressed sub-county target area that were damaged by the disaster and cannot be repaired with existing programs</p>	<p><b>Currently running</b> a CDBG-DR or other recovery housing program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Analysis that shows the program waiting list <b>AND</b></li> <li><input type="checkbox"/> A reasonable estimate of aggregated average unmet repair needs exceeds the existing CDBG-DR fund available.</li> </ul> <p><b>Not currently</b> running a CDBG-DR or other housing recovery program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Briefly explain why prior allocations of CDBG-DR funding, together with other funding sources, are inadequate to provide housing <b>AND:</b></li> <li><input type="checkbox"/> Provide recent emergency management data indicating households are still displaced from the disaster</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Provide methodologically sound “windshield survey” of the most impacted and distressed target area conducted since January 2014 <b>AND</b></li> <li><input checked="" type="checkbox"/> A list of 20 addresses of units identified with remaining damage <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> At least 9 of these addresses confirming (i) the damage is due to the disaster and (ii) they have inadequate resources from insurance/FEMA/SBA for completing repairs</li> </ul> </li> </ul>	<p><input checked="" type="checkbox"/> Link:</p> <p><a href="#">Marseilles Windshield Survey</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

The Marseilles target area consists of census blocks 17099963700 that includes the communities of, Marseilles and Seneca.

Eligible County: LaSalle, Lostant, Marseilles, Mendota, North Utica, Oglesby, Ottawa, Peru, Seneca, Sheridan, Streator, and Tonica are in LaSalle County, which was declared a 2013 major disaster in FEMA-4116-DR per [CDBGDR Appendix B](#) page 10.

Most Impacted: The HUD [CDBGRDR Appendix C](#) page 3 listed the tract with a total 173 seriously damaged housing units and 245 damaged units, meeting the “Most Impacted” characteristics for serious damage and units damaged to housing units.

Distressed: The area also meets the “Distressed” characteristic for concentration of housing damage since its listing in the HUD [CDBGRDR Appendix C](#), the Low to Moderate Income as shown in [CDBGRDR Appendix D](#) and for an economically fragile area since the county employment rate is 7.8% which exceeds the national average (5.6%) by more than 125% ( $5.6\% \times 1.25 = 7\%$ ) as shown from [IDES Unemployment](#).

Unmet Recovery Needs: The Marseilles target area has 22 housing unit in Marseilles with Unmet Recovery Needs. [Twenty-two homes surveys](#) were completed for these structures in March of 2015.

Target Area 9: Ottawa

<b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Ottawa</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Housing damage due to eligible disaster:</b> <input checked="" type="checkbox"/> Damage to a minimum of 100 homes <b>OR</b> <input type="checkbox"/> Serious damage to a minimum of 20 homes	<input type="checkbox"/> Appendix C list of disasters with concentrations of housing damage meeting this requirement <b>OR</b> <input checked="" type="checkbox"/> Local data: <input checked="" type="checkbox"/> Data shows concentrated damage meeting standard, <b>AND</b> <input checked="" type="checkbox"/> HUD agrees with its validity	<input checked="" type="checkbox"/> Link: <a href="#">City Damage Map</a>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Ottawa</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<b>Disaster impacted low- and moderate-</b>	<input checked="" type="checkbox"/> CDBG low- and moderate-	<input checked="" type="checkbox"/> Link: <a href="#">CDBGRDR</a>

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster		
<ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<b>Target Area Name: Ottawa</b>		
Criteria	Data Source	Data Documentation
<b>income households:</b> <input checked="" type="checkbox"/> More than 50 percent of people in the target area are at less than 80 percent of the area median income	income summary data	<a href="#">Appendix D</a>  <input type="checkbox"/> Page number(s) in application:
<b>Disaster impacted a federal target area or economically fragile area:</b> (must choose at least one to meet this criteria) <input type="checkbox"/> Tribal area <input type="checkbox"/> HUD Promise Zone site <input type="checkbox"/> HUD Strong Cities Strong Communities site <b>AND/OR</b> <input checked="" type="checkbox"/> Has an unemployment rate more than 125 percent of the national average unemployment rate	<input checked="" type="checkbox"/> Demonstrate this characteristic and provide supporting documentation	<input checked="" type="checkbox"/> Link: <a href="#">IDES Unemployment</a>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- <i>Response must include at least one criterion</i></li> <li>- <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i></li> </ul>		
<b>Target Area Name: Ottawa</b>		
Criteria	Data Source	Data Documentation

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Ottawa</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Housing:</b></p> <p><input type="checkbox"/> Twenty or more households are still displaced from housing due to the disaster and will not be served by existing programs <b>OR</b></p> <p><input checked="" type="checkbox"/> There are twenty or more still damaged housing units in or near a most impacted and distressed sub-county target area that were damaged by the disaster and cannot be repaired with existing programs</p>	<p><b>Currently running</b> a CDBG-DR or other recovery housing program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Analysis that shows the program waiting list <b>AND</b></li> <li><input type="checkbox"/> A reasonable estimate of aggregated average unmet repair needs exceeds the existing CDBG-DR fund available.</li> </ul> <p><b>Not currently</b> running a CDBG-DR or other housing recovery program:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Briefly explain why prior allocations of CDBG-DR funding, together with other funding sources, are inadequate to provide housing <b>AND:</b></li> <li><input type="checkbox"/> Provide recent emergency management data indicating households are still displaced from the disaster</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Provide methodologically sound “windshield survey” of the most impacted and distressed target area conducted since January 2014 <b>AND</b></li> <li><input checked="" type="checkbox"/> A list of 20 addresses of units identified with remaining damage <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> At least 9 of these addresses confirming (i) the damage is due to the disaster and (ii) they have inadequate resources from insurance/FEMA/SBA for completing repairs</li> </ul> </li> </ul>	<p><input checked="" type="checkbox"/> Link:</p> <p><a href="#">Ottawa Windshield Survey</a></p> <p><input type="checkbox"/> Page number(s) in application:</p>

The Ottawa target area consists of census blocks 17099962700 that includes the communities of Ottawa.

Eligible County: LaSalle, Lostant, Marseilles, Mendota, North Utica, Oglesby, Ottawa, Peru, Seneca, Sheridan, Streator, and Tonica are in LaSalle County, which was declared a 2013 major disaster in FEMA-4116-DR per [CDBGDR Appendix B](#) page 10.

Most Impacted: Within the City of Ottawa, the city documented 497 reports of flood damage due to the April 25, 2013 event. The City of Ottawa has provided the [City Damage Map](#)

documenting the location of these properties, meeting the “Most Impacted” characteristics for damaged housing units.

Distressed: The area also meets the “Distressed” characteristic for the Low to Moderate Income as shown in [CDBG RDR Appendix D](#) and for an economically fragile area since the county employment rate is 7.8% which exceeds the national average (5.6%) by more than 125% ( $5.6\% \times 1.25 = 7\%$ ) as shown from [IDES Unemployment](#).

Unmet Recovery Needs: The Ottawa target area has 26 housing unit in the City of Ottawa with Unmet Recovery Needs as determine by the [Ottawa Windshield Survey](#). Nine homes surveys were completed for these structures in March of 2015.

Target Area 10: Marshall

<b>MOST IMPACTED CHARACTERISTICS:</b> considers the damage resulting from the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Marshall</b>		
Criteria	Data Source	Data Documentation
<b>Infrastructure:</b> <input checked="" type="checkbox"/> Damage from the eligible disaster to permanent infrastructure in a sub-county area estimated at \$2 million or greater	<input type="checkbox"/> An engineering report <b>OR</b> <input checked="" type="checkbox"/> FEMA Project Worksheet with an estimated repair amount <b>OR</b> <input type="checkbox"/> Other evidence of an estimate of expenditures to make repairs	<input checked="" type="checkbox"/> Link: <a href="#">Marshall IEMA Worksheet</a>  <input type="checkbox"/> Page number(s) in application:

<b>MOST DISTRESSED CHARACTERISTICS:</b> considers stress or deficit factors <i>prior</i> to the Qualified Disaster - <i>Response must include at least one criterion</i> - <i>For each criteria category selected, the corresponding data source and data documentation response must be provided</i>		
<b>Target Area Name: Marshall</b>		
Criteria	Data Source	Data Documentation
<b>Disaster impacted low- and moderate-income households:</b> <input checked="" type="checkbox"/> More than 50 percent of people in the target area are at less than 80 percent of the area median income	<input checked="" type="checkbox"/> CDBG low- and moderate-income summary data	<input checked="" type="checkbox"/> Link: <a href="#">CDBG RDR Appendix D</a>  <input type="checkbox"/> Page number(s) in application:

<b>UNMET RECOVERY NEED</b>		
<ul style="list-style-type: none"> <li>- Response must include at least one criterion</li> <li>- For each criteria category selected, the corresponding data source and data documentation response must be provided</li> </ul>		
<b>Target Area Name: Marshall</b>		
<b>Criteria</b>	<b>Data Source</b>	<b>Data Documentation</b>
<p><b>Infrastructure:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> There is damage to permanent public infrastructure from the qualifying disaster (i.e. FEMA Category C to G) that has not been repaired due to inadequate resources, in or serving the most impacted and distressed target area(s) <b>AND</b></li> <li><input checked="" type="checkbox"/> Describe the damage, location of the damage to permanent public infrastructure relative to the most impacted and distressed target area(s), the amount of funding required to complete repairs, and the reason there are inadequate funds <b>AND</b></li> <li><input checked="" type="checkbox"/> A minimum \$400,000 in unfunded permanent infrastructure repair needs</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> An engineering report <b>OR</b> <input checked="" type="checkbox"/> a FEMA Project Worksheet(s) with an estimated repair amount</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> A sources and uses statement for the repairs showing the funding shortfall (total repair costs may include the extra cost to repair this infrastructure resiliently) <b>AND</b></li> <li><input checked="" type="checkbox"/> Your explanation of why existing CDBG-DR resources, together with other funding sources, are inadequate to meet this repair need</li> </ul>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Link: <a href="#">Marshall FEMA Worksheet</a></li> <li><input type="checkbox"/> Page number(s) in application:</li> </ul>

The Marshall target area consists of four census tracts (17123961100, 17123961200, 17123961300 and 17123961400) that include the communities of Henry, Lacon, and Sparland.

Eligible County: Henry, Lacon, and Sparland are in Marshall County, which was declared a 2011 major disaster in FEMA-1960-DR per [CDBGRDR Appendix B](#) page 10.

Most Impacted: During the April 2013 flood, the Marshall area has received \$2,472,550 in damages per the [Marshall IEMA Worksheet](#).

Distressed: The area also meets the “Distressed” characteristic for the Low to Moderate Income for Census Blocks 171239612002 and 171239612003 as shown in [CDBGRDR Appendix D](#).

Unmet Recovery Needs: The Marshall target area has \$1,177,227 in an approved amount in the FEMA Project Worksheet while only showing \$882,920 in Federal Share Approved. This

results in an unmet need for the target area of \$294,306 in Category C expenses as shown in the [Marshall FEMA Worksheet](#).

### **Aggregated Unmet Recovery Needs**

Within all the target areas includes unmet recovery needs for infrastructure, housing, and economic revitalization as documented in each of the listed target areas. Unmet infrastructure needs were documented at \$5,716,706 in the target areas of Carbondale, Alexander, and Marshall. Unmet housing needs were documented at 166 units in the target areas of Brookport, Pulaski, Washington, Roanoke, Marseilles and. Unmet economic revitalization needs were documented for 5 businesses in the target area of Roanoke. Beyond the criteria of the competition, but impactful to the community, Roanoke did sustain damages to 5 government and public building. While damage to government building are not able to qualify as an unmet need per Appendix G of the NOFA, the results have increased burdens for all community tax payers and will have continued damages unless the issues are address in a resilient manner.

### **National Objective**

The activities and proposed projects that will be developed within the Phase 2 plans for each target area will meet at least one of the three national objectives of the CDBG program. These three national objectives are benefiting low- and moderate- income persons; preventing or eliminating slums or blight; and meeting urgent needs. The target area proposals will focus on benefiting low- and moderate- income persons and preventing or eliminating slums or blight.

The floodplains and flood prone areas throughout Illinois are often the residing areas for Illinois vulnerable population. Each project incorporate improvements to those areas for the future benefit of the area and the community.

### **Overall Benefit**

As stated in NOFA Appendix A, “CDBG-NDR NOFA waives the requirements at 42 U.S.C. 5301(c), 42 U.S.C. 5304(b)(3)(A), 24 CFR 570.484, and 570.200(a)(3), that 70 percent of funds be used for activities that benefit low- and moderate-income persons. Instead, 50 percent of funds must benefit low- and moderate-income persons.” The State of Illinois ensure that the proposed from each target area will direct over 50 percent of it funds to benefit low- and moderate-income persons.

DRAFT

## **Exhibit C - Factor 1: Capacity**

### **General Management Capacity**

The Illinois Department of Natural Resources (IDNR) will be the implementing agency to ensure all HUD requirements and activities within our proposal are addressed with guidance from Department of Commerce and Economic Opportunity. IDNR, through its Office of Water Resources(OWR), will coordinate and manage the activities for all target areas through the corresponding regional planning council which will further coordinate with the local municipalities.

As the principal Flood control agency for the state, IDNR/OWR has a long history of successfully planning, designing and implementing major flood control and flood hazard mitigation projects statewide. IDNR/OWR has the internal controls, capabilities and experience to quickly launch and implement a major projects including construction QA&QC either with in-house professionals or through procured consulting services.

The IDNR has a long history of administrating federally funded grants with proper financial and procurement methods in place.

North Central Illinois Council of Governments assisted the Department of Commerce and Economic Opportunity during the creation and roll out of the Hurricane IKE CDBG program and is a regular contributor to the State's Consolidated Plan. NCICG is offering their expertise and services to the Department of Natural Resources for the completion of the CDBG-NDR Phase 1 application.

Greater Egypt Regional Planning Council administers three federally funded infrastructure grants that received nearly \$6.5 million in grant funds through the U.S. Economic Development Administration

Southern Fiver Regional Planning Council has experience with the development, application, and administration of over 100 CDBG funded projects to date which include housing rehabilitation, public infrastructure improvements, and capital projects.

The State of Illinois through it IDNR/OWR is very experienced at working and coordinating with partners (including contractors, funders, sub recipients, community stakeholders, and other government agencies) in previous projects similar in scope of scale to the proposed activities. As highlighted on the [IDNR/OWR website](#), IDNR/OWR has undertaken a multitude of flood control, flood hazard mitigation, water supply, water allocation, coastal management, dam, and public water management projects. Development and implementation of these water resource related efforts involved IDNR/OWR oversight, management and involvement with contractors, funding partners, sub recipients, community stakeholders, and other government agencies to name a few. The IDNR/OWR is also very experienced in partnering with local communities through intergovernmental agreements and is well versed in conducting public outreach coordination.

This grant application was completed by the State of Illinois State and Chicago Metropolitan Agency for Planning in cooperation with the Northeastern Illinois Resilience Partnership, North Central Council of Governments, Tri-County Planning Commission, Greater Egypt Regional Planning and Development Commission, Southern Five Regional Planning Commission and the communities of Ottawa, Marseilles, Washington, Roanoke, Carbondale, Ullin, Alexander County, Bureau County, LaSalle County, and Marshall County..

### **Cross-Disciplinary Technical Capacity**

The Northeastern Illinois Resilience Partnership (Partnership) is a multijurisdictional, bipartisan partnership that is led by the City of Chicago, Cook County, DuPage County, and the State of Illinois (the Applicants). In addition to the Applicants, the Partnership also consists of a

diverse network of public, non-profit, and private partners, including the Metropolitan Planning Council, Center for Neighborhood Technology, Natural Resources Defense Council, Foresight Design Initiative, and the Chicago Metropolitan Agency for Planning (CMAP), the regional planning agency for Northeastern Illinois. The Partnership's membership, as well as its role coordinating infrastructure design, and institutional change, and knowledge sharing, enables cross-disciplinary technical capacity across the region. Collectively, the Applicants have experience with this type of coordination through a sub-regional resiliency initiative, Calumet Stormwater Collaborative (see Factor 1d). Given the number of partners and their range of sector expertise, the following description categorizes their expertise into six broad topic areas. With multiple partners in each of the expertise areas, the Partnership will retain capacity if an individual partner reduces their participation. For a full list of Partners and additional experts, see Factor 3a and Appendix X.

**Comprehensive Planning:** The Applicants all have extensive experience developing and implementing comprehensive plans, as well as complex programs and projects designed to address an array of issues. In 2008, CMAP developed GO TO 2040, the region's first comprehensive plan in over 100 years and which was unanimously adopted. CMAP has also conducted land use, transportation, and economic development planning and zoning assistance for over 140 local communities in northeastern Illinois through. Examples of Applicant comprehensive planning efforts that involved significant stakeholder engagement across multiple sectors include county Comprehensive Economic Development Strategy (CEDS) plans that address future housing, community, and economic development needs, interjurisdictional watershed plans, and City of Chicago neighborhood plans and the Sustainable Chicago 2015 plan.

**Data and Science-Based analysis:** Partners at research institutions, such as Argonne National Laboratory, Illinois State Water Survey, and the Midwestern Regional Climate Center, have experience with collecting and analyzing climate science—including modeling and downscaling—and have helped to translate knowledge of possible future conditions and risks as well as possible benefits and outcomes to the Partnership. CMAP, the current repository for many regional datasets, facilitates access to science-based information among Partners.

**Community Development and Housing:** The Applicants all have extensive experience with affordable housing and economic revitalization. Additional partners, such as the Chicago Area Fair Housing Alliance and CMAP, have experience analyzing impacts of regional racial and economic disparities through a Fair Housing Equity Assessment for HUD. The findings of that assessment informed this application’s analysis of how climate change relates to existing regional vulnerabilities (see Factor 2).

**Design, Engineering, and Maintenance:** The Applicants all plan, design, and maintain components of the state’s and region’s built environment, including buildings, streets, sewers, and green stormwater infrastructure. Several partners have experience with designing large and complex engineering projects, such as the Metropolitan Water Reclamation District’s (MWRD’s) Tunnel and Reservoir Plan, which is reducing combined sewer overflows by retaining billions of gallons of water. In coordination with private design and engineering consultants, the Partnership has the technical capacity to formulate and refine proposed physical interventions to reduce hazard exposure and build resilience. The IDNR, Office of Water Resources has a team of civil, environmental and agricultural engineers well versed in project planning, design, and economic justifications. This office uses both FEMA damage models and a model developed solely for urban flood damage reduction project benefit to cost

determinations. A strong partnership exists between the Corps of Engineer District Offices and the State of Illinois.

**Environment:** Several Partners are focused on enhancing the environmental quality of the region, including land managers involved in active restoration and research, advocacy organizations devoted to making institutional and behavioral changes, and state and county regulators who safeguard our natural resources. For instance, the Forest Preserve Districts of Cook and DuPage County collectively manage a network of almost 100,000 acres of open space. Chicago Wilderness, a 260-member coalition, developed the Green Infrastructure Vision to identify priority landscape conservation areas and their resulting ecosystem services. Other partners, such as the Natural Resources Defense Council, rely upon law, science, and advocacy for environmental protection.

**Civic and Philanthropic:** Many civic and philanthropic organizations are active members of the Partnership. The Metropolitan Planning Council, Center for Neighborhood Technology, Delta Institute, and Foresight Design Initiative have leveraged their expertise in coalition-building and community engagement to convene consultation working groups and assist Applicants' public outreach. The Chicago Community Trust, Grand Victoria Foundation, and other funders have provided feedback and resources on how to strategically advance the region's capacity to prepare for a range of hazards.

### **Community Engagement Capacity**

To engage the community stakeholder, The State of Illinois will leverage its partnerships with the regional planning councils (RPCs) throughout the state to open communication to local governments and stakeholders to identify the most vulnerable populations with unmet and resilience implementation needs. While the state may be able to work with a local government,

the RPCs have an extensive experience of identifying and working with the all the stakeholder of an area and include partnerships with local health departments, Chamber of Commerce, elected officials, non-profits including local churches, universities, community agencies, preparedness and response coalitions, and various civic organizations. Additionally, multi-County resilience alliances are being formed between communities in Illinois. This ensures that all stakeholders from an area are involved in the identifying need, planning and implementation phases of resiliency building efforts.

The RPCs have contributed to coordination, writing, updating, and management of a Multi Hazard Mitigation Plan, comprehensive land use plans and various other comprehensive planning efforts for their planning areas. The state commonly empowers community leaders to secure project land rights, relocate local utilities, and conduct perpetual operation and maintenance responsibilities on flood damage risk reduction projects.

Prior collaborative efforts have been implemented with the State of Illinois working with RPCs to bring various stakeholders to discuss a central goal of making the multiple regions of the state better prepared for future disaster events. The State of Illinois is accustomed to engaging diverse stakeholders for project contributions.

### **Regional or Multi-Governmental Capacity**

The Partnerships will serve as the multi-governmental coordinating body of resiliency activities across the region. Established to develop a proposal to the NDRC, the Partnership is a multijurisdictional group of municipal, county, and state governments and private and non-profit groups from a range of industries. A regional approach is particularly appropriate for addressing shared threats and risks, such as flooding and climate change. If left uncoordinated, local actions to mitigate flooding can exacerbate downstream problems. Carrying out pilot and regional

activities under the umbrella of the Partnership will lay a foundation for strategic implementation of resiliency planning across the region. The Partnership is a new collaboration, but uses the expertise and capacity and relationships of existing organizations. The Partnership will, however, expand the scope to encompass an “all-hazards” approach to resilience that addresses drought, economic competitiveness, and additional aspects of ecological and social vulnerability.

Like flooding, complex social vulnerabilities cross jurisdictional boundaries and are best addressed through regional coordination. The factors that contribute to social vulnerability—transportation mobility, access to economic opportunities and affordable housing, social isolation, and concentrated poverty—manifest differently in local communities, but are regionally interconnected. The Partnership’s two-track framework allows Applicants to relate local vulnerabilities in their pilot areas to the larger economic, infrastructural, and ecological systems that support the entire region. For instance, local resiliency planning can provide project-specific workforce opportunities for the neighborhood, but those activities will be connected to regional efforts to develop workforce training programs and create market demand for green infrastructure. These region-wide activities will allow solutions to benefit vulnerable populations—including minorities, low-income populations, elderly, immigrants, and disabled populations—in the pilot areas, as well as across the region.

Our Regional Planning Councils has extensive experience connecting local implementation to regional change, as well as building broad-based coalitions to tackle issues that cut across transportation, social, housing, economic, and environmental sectors.

While the State will be responsible for complying with HUD grant requirements and implementing pilot projects from the individual grant received from HUD, the Partnerships will coordinate each of the pilot projects, as well as the broader range of crosscutting resilience

activities that affect the entire region. The Northeastern Partnership is exploring the opportunity to establish a Rebuild by Design Chicago office to house a project manager that can oversee regional coordination. This project manager would be housed at one of the regional non-profit organizations and ensure that local resiliency activities are carried out in a concerted manner and scaled across the region.

**Exhibit D - Factor 2: Need / Extent of the Problem**

**Most Impacted and Distressed**

Disasters in Illinois are typically not well-known mega-events like Hurricane Katrina or Superstorm Sandy, but rather smaller-scale events that cumulatively result in significant damages to health and safety, housing, infrastructure, economic competitiveness, and ecosystems. For instance, typical spring storms have led to major road, rail, and utility outages, mold and maggots in basements, severe erosion, sewer overflows, closures of local businesses, and deaths. Flooding stands as the primary hazard facing this region, accounting for 41% of disaster losses statewide and resulting in over \$195 million in FEMA National Flood Insurance Policy payments to the region since 1978.

The State of Illinois had 89 of 102 (87%) counties with major declared disasters from 2011 to 2013 with a total of 146 county declarations. The federal declarations in the State of Illinois included Severe Storms, Straight-Line Winds and Flooding (DR-4116) in 2013, Severe Storms, Straight-Line Winds and Flooding (DR-4157) in 2013, and Severe Storms and Flooding (DR1991) in 2011. Below is a summary table showing the number of residents, percent of low income family, and cost impacts from these events.

<u>Disaster</u>	<u>Residents Impacted</u>	<u>%Low Income</u>	<u>Cost Estimate</u>
<a href="#">FEMA-4157-DR</a>	2,441	10.7%	\$11.0 Million

<a href="#">FEMA-4116-DR</a>	3,517	10.7%	\$23.8 Million
<a href="#">FEMA-1991-DR</a>	955	<b>53%</b>	\$13.2 Million

The geographic representation of the target areas throughout the state range from the southern most point of Illinois in Cairo and Brookport, to central Illinois communities around Peoria, to north central Illinois communities of Spring Valley, Ottawa and Marseilles, to our Northeast Illinois partners in DuPage County, Cook County and the City of Chicago. Within the State’s defined target areas in the threshold narrative, 2,439 housing units were damaged with serious damage to 863 homes. Impacts to the specific target areas can be found in the threshold narrative.

Many of the target areas are along major rivers, such as Alexander, Brookport, Spring Valley, Ottawa, and Marshall. It would be expected that many experience flooding. In the case of Cairo in Alexander target area, Brookport and Ottawa, their Most Impacted criteria was not determined by the overbank flooding of the river, but instead are unable to convey local water effectively to the river causing basement and local drainage flooding. These areas have aging and under maintained infrastructure in distressed portions of the communities.

The pilot areas selected by the State and our Regional Partners are representative of the spectrums of social, ecological, and built conditions and vulnerabilities found across the region and, together, allow the region to learn from distinct but coordinated solutions that address different mixes of vulnerabilities. When scaling this project regionally (explained in Factor 3b), other places can learn from the processes and solutions developed in the pilots areas by adapting various interventions to their own community profiles. These lessons can also be applied to plan for changing economic and demographic trends throughout the state.

**Unmet Recovery Needs**

As listed in the threshold narrative, the State of Illinois is submitting 10 target areas with \$5.7 million in infrastructure unmet recovery needs, 166 housing units in housing unmet recovery needs and 5 businesses with economic revitalization unmet recovery needs.

The State of Illinois has Unmet Recovery Needs that will take a comprehensive risk approach to address the unmet need by continuing to work with federal, local, nonprofit and other stakeholder partners to assess the nature and scope of damages caused by the storms utilizing both local and regional input as well as science-based data in developing the proposed projects for each target area. Priorities have been established to facilitate thoughtful and effective recovery, and the State is refining its framework that will streamline recovery in a manner consistent with its priorities.

The state will utilize a diverse toolbox of science-based solutions when evaluating components of the project including items detailed in Factor 3b part 1 of this application. A structural risk assessment (further detailed in Factor 5, item 7) will be conducted on all structure in or near the floodplain. An analysis on each structure will evaluate the risk and damage magnitude for an area or determine if individual structures need to be flood proofed, elevated or bought-out.

The impacts of flooding are exacerbated by four regional factors. First, the severity and frequency of flooding events are only expected to increase with climate change. Based on 2014 National Climate Assessment (NCA), northeastern Illinois is expected to as much as a 20% increase in precipitation in the winter, spring, and fall over the next century (see the later part of Factor 2 for more description of regional climate risks). Historical impacts and flood modeling will be adjusted for future impact predications to provide solutions that account for future threats

to a community. Future threats will be adjusted for dynamic elements such as climate change impacts to rainfall and forecasted urban development.

Second, a CMAP analysis of the state of the region's infrastructure shows that it is both aging and not built to accommodate the frequency or intensity of rainfall events we are already experiencing, much less those we expect to have in the future. Third, based on a region-wide analysis of the National Land Cover Database, urbanizing development patterns are increasing imperviousness, particularly in upstream areas of Lake and McHenry Counties, resulting in more runoff that flows toward Cook and DuPage Counties. Fourth, communities facing chronic and concentrated vulnerability in terms of income level, age, race, educational attainment, English proficiency, medical condition, and transportation access are also the ones hit hardest by flooding. The disproportionate burden of losses in specific communities is a symptom of regional vulnerabilities and inequities that need to be addressed in order to make communities more resilient.

State resiliency team in cooperation with the local stakeholder will collaborate to develop initiatives that lead toward recovery and resilience in the State's housing, economic, infrastructure and health and social service sectors. All developed initiatives will include cost-benefits analysis to address quantitative measures are met while including qualitative measures factors that improve benefits that may be intangible.

It is the State's intent to utilize this opportunity with the 10 eligible target areas and to refine our comprehensive risk approach in developing solution that address communities long term threats and hazards for all proposed projects.

## Responses to Questions

*What threat(s), hazard(s), or vulnerability(ies) are you are focusing on?* Floodplain and urban flooding (see definition below) are the most prevalent hazards across the State of Illinois, especially in light of recent climate change impacts, and is therefore, the primary focus of disaster recovery, mitigation and unmet need statewide. Urban flooding is further exacerbated by aged, undersized, and deteriorating storm water infrastructure systems. However, the disasters of 2013 also highlight that the entire state from Coal City to Brookport are vulnerable to the devastation delivered by the forces of tornados. Finally, the threat of earthquake intensifies the further south you go in Illinois. Any resilient disaster recovery effort or mitigation activity will need to give consideration to these common threats in Illinois.

*How did you identify it/them?* Several state agencies in Illinois have a long history of responding to disasters in Illinois, especially flood and tornado disasters. More recently, the State of Illinois through its ongoing Urban Flood Awareness Act Study and associated insurance claims data call has identified the breadth and magnitude of urban flooding as a significant source of flood damages in Illinois too. The consistent message delivered by impacted community officials and distraught citizens during the community engagement activities conducted by the State and the regional partners to identify vulnerabilities and unmet disaster recovery needs, affirmed these hazards as the most prevalent.

*Who and what are/have been/will be affected by events related to them and what are the future risks from the threat(s), hazard(s), or vulnerability(ies)?* The State of Illinois, in partnership with our local communities, has made tremendous progress toward flood risk reduction, and flood hazard mitigation through engineering studies, constructed reservoirs, floodwalls, channel improvements, and buyouts of impacted structures statewide. Municipalities

and vulnerable areas such as East St. Louis, Olive Branch, Meredosia, Des Plaines and many more have reduced or eliminated the effects of flood threats. Many Illinois communities now also comprehend the vulnerabilities associated urban storm water flooding and associated deteriorating storm water systems and are beginning to take measures to address this hazard through green and grey infrastructure improvements. However, despite these efforts, many more areas in the state simply clean up and repair damage from disastrous floodplain and urban flooding events and leave themselves susceptible to future risks and repetitive damages.

***What data and other information did you use to identify the risk(s) or vulnerability(ies) and over what timeframe? The law directs HUD to use the best available data. Why is the information you considered the best data in your geographic area?***

Specific risks, vulnerabilities and unmet needs in the most impacted and distressed target areas were identified through outreach collaboration in partnership with our regional planning commissions statewide and local communities in those regions through a series of public meetings and conference calls.

Climate change data was considered in particular from the Midwest Regional Climate Center and Illinois State Climatologist who developed downscaled models that projected that annual precipitation could increase by as much as 20% by the end century, particularly during winter and spring months, with a significant portion from more frequent heavy rainfalls. As a Cooperating Technical Partner (CTP) with FEMA, the state is involved in the development and authorization of floodplain mapping statewide, the state relied upon FEMA floodplain and floodway maps for flood risk identification. The validity of this mapping is conducted through FEMA's CNMS system thereby assuring a level of quality control and quality assurance.

Recent LiDar information is also used to better define local flood risks especially in urban environments.

In 2014, the Center for Neighborhood Technology (CNT) produced a report addressing the cost and prevalence of Urban Flooding in Cook County, IL (CNT, 2014). Insurance claims data, primarily from the Federal Emergency Management Agency (FEMA) and private insurers, was used to study the cost and distribution of claims in Cook County. As a follow up to that study, insurance claims data for Illinois was requested by the state from private insurers and the FEMA-National Flood Insurance Program (NFIP). All claims data represented basement/foundation flooding, included sump pump failure and sewage backup, not due to riverine flooding. The private insurance data included location (street address), date of loss, date of claim received, and final payment amount for 184,716 claims from 2007 through September, 2014. The NFIP data included location, date of loss, and final payment amount for 47,713 claims from 1976 through October, 2014. Analysis of this information indicates that only about 78% of the urban insurance claims resulted in a monetary payment with the rest remaining as unmet need.

***These effects must be taken into account using a risk management approach, accounting for relevant uncertainties. Given the history of your region, climate change projections, demographic and development trends, and other factors as appropriate, what risks is your community facing? How serious and likely are the risks? What are your “known unknowns”?***

The three greatest natural hazard risks facing Illinois communities are: tornados, earthquakes and flooding. Flooding risks are further categorized into stream floodplain flooding and urban flooding. The extent and severity of both of these types of flooding are continually

being exacerbated in Illinois by ever increasing rainfall intensity events, expanding urban development (more impervious areas), and deteriorating infrastructure. Urban flooding in particular is heavily impacted by these factors.

"Urban flooding" is the inundation of property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers. "Urban flooding" includes (i) situations in which stormwater enters buildings through windows, doors, or other openings, (ii) water backup through sewer pipes, showers, toilets, sinks, and floor drains, (iii) seepage through walls and floors, and (iv) the accumulation of water on property or public rights-of-way." Urban flooding can be further defined by the source and root causes of the problem such as: Poorly drained soils, inadequate drainage system capacity, inadequate drainage system inlet capacity, topography (natural low areas), imperiousness, high water table and/or backwater on a stormwater outlet. While federal, state and local programs exist to help address and mitigate floodplain flooding, very few if any means exist to address flood problems and damages outside the mapped floodplain or to help an ever growing population of urban flood victims. Several communities statewide have expressed concern about urban flood areas of their communities becoming blighted due to repetitive urban flood impacts and about the value of properties in these areas rapidly declining because of growing flood damage stigmas associated with certain properties (including businesses) in their communities.

***To what extent are public and private buildings, improvements, and residences in your community un-insured or under-insured for the risk(s) you have identified? If your community has been subject to repeated flooding, what is the estimated portion of the uninsured structures are subject to the so-called "one bite rule" related to the requirement to***

*maintain federal flood insurance coverage? How has this affected and how will this affect your current recovery and future resilience? What factors are affecting individual and community decision about purchasing and maintaining sufficient insurance?*

Almost 90 percent of Illinois communities participate in the National Flood insurance Program (NFIP), or 877 communities. This is one of the highest levels of NFIP participation in the nations. The State of Illinois requires any community receiving financial assistance from the state to be in the NFIP. However, there are only 50,000 flood insurance policies in force in Illinois. The State of Illinois estimates that 15% of the population of Illinois, or 1,935,000 people live or work in a designated floodplain. Generally, less than 50% of the target areas are covered by flood insurance or basement backup insurance. Since flood insurance purchase requirements are tied to mapped Special Flood Hazard Areas for private property that secures a loan, and for public property that is seeking FEMA Public Assistance for flood damage following a disaster declaration, any property that experiences flood damages that isn't in a mapped SFHA is likely to be uninsured. Accordingly, most of the uninsured structures are subject to the so-called "one bite rule" related to the requirement to maintain federal flood insurance coverage.

As discussed during the Urban Flood Risk Symposium in February, privately marketed sewer backup and sump pump overflow insurance coverage is often limited to relatively small amounts of coverage and no provides no guarantee that it continues to be available after one or more claims. So buildings that are known to be susceptible to that kind of damage rather than flood as defined in the NFIP standard policy forms are almost always underinsured or uninsured. The degree of underinsurance would depend on the type of building. A building with an unfinished basement might be in fair shape if it has the coverage, but a finished basement, or

worse, a basement that is used as someone's primary living space (i.e. a "garden apartment" in a multi-family building) is likely to be severely underinsured from the perspective of someone who occupies that space.

As the State of Illinois works with the target areas of unmet recovery need identified in this application, the target area community must participate in the NFIP. Additionally, the recommended purchase of flood insurance would serve as a base action for at risk structures as we work with the various communities to implement alternatives to reduce risk and enhance resiliency.

Finally, factors affecting individual and community decision about purchasing and maintaining sufficient insurance include: the level of knowledge or uncertainty about flood insurance coverage, imposed mortgage requirements, common misconceptions that flood insurance isn't available, denial of risk, and rising insurance premium costs.

***How will addressing the threat(s) and hazard(s) related to this vulnerability(ies) address specific unmet disaster recovery, affordable housing, economic revitalization or restoration of infrastructure needs from the Qualified Disaster? How will addressing the risks from this vulnerability help your community recover, protect your community's recovery projects/efforts, or revitalize your community from the effects of the disaster you had?***

The goal for flood related disaster recovery is to modify uses of the floodplain area such that flood events do not result in damages or disaster. Structural risk assessment uses economic based flood damage analysis tools to help determine most effective mitigation measure such as buy-outs, elevations or flood proofing. The structural risk assessment will identify and prioritize mitigation actions noted above necessary to eliminate or reduce future flood risk. Especially post disaster, many of the occupied floodplain areas carry a flood stigma that negatively impacts

the residents and businesses living and working in the floodplain and the community as a whole. The same holds true for areas impacted by urban flooding. Implementing mitigation measures based on sound structural risk assessment science often ignites economic revitalization of a community as the mitigation measures visually change the characteristics of the most distressed and impacted areas in a resilient manner and remove the negative stigma previously associated with the area. Where property buy-outs are utilized the newly created open space can be repurposed into a resilient use such as a park, urban wetland, or community garden.

***Are there risks with disproportionate effects on any population groups? Describe and identify whether the disproportionate effects relate to household income or a particular protected class. Will some of the risks disproportionately affect those with accessibility challenges? Can potential solutions benefit those with functional needs? Does the identified vulnerability(ies) offer any opportunity(ies) for disaster recovery and economic revitalization, including resilience to future and current risk? Why is addressing the risk related to this vulnerability important to your state, region, and local community?***

While tornados and earthquakes can impact high and low income families in Illinois alike, flooding disproportionately affects low to moderate income families the most. As part of the state's Urban Flood Awareness study, USCB 2013 average annual household income for each census tract was used to assign an average annual household income to each insurance claim. The average household income for Illinois' urban areas is \$58,452. Figure 2b-1 shows the distribution of annual household income for Illinois' urban areas, regardless of claims data, and the distributions of annual household income for the NFIP and Private (urban flooding) insurance claims. The figure reveals that the greatest percentages of insurance claims are filed by households with incomes between \$40,000 to \$75,000. Insurance claims are drastically lower

when household incomes exceed \$110,000. Both floodplain and urban flooding disproportionately affects those with accessibility challenges making it more difficult to floodproof their homes, move possessions to higher elevations, or even safely evacuate their properties. Significant public servant dollars are spent during floods to rescue these individuals. Repurposing floodplain uses in the target communities through priority based buy-out, elevation and flood proofing mitigation activities provides an opportunity these challenged individuals to reside in lower risk environments and potentially reduce public service emergency rescue expenditures. Relocating low to moderate income families out of the floodplain reduces their need to pay higher insurance premiums (much higher in relation to their incomes) to cover their risk. As evidenced by the recent disaster declarations in the subject target areas statewide, significant federal, state, local, corporate and private resources are spent each year on flood fighting, flood response, public safety, and flood cleanup each year plus lost production, revenues, taxes and wages. Implementing resilient measures to create more flood event resilient communities is an important objective of the State of Illinois and its local and regional partners.

The increasing prevalence of urban flooding has caught the attention of many home and business owners in Illinois as well as the attention of the insurance, real estate, banking, and property development industries. The Illinois General Assembly has directed state agencies to explore the magnitude, extent and opportunities to address this growing concern. The time is right in Illinois to deliberately incorporate resiliency measures into the push for greater urban flood awareness and solutions.

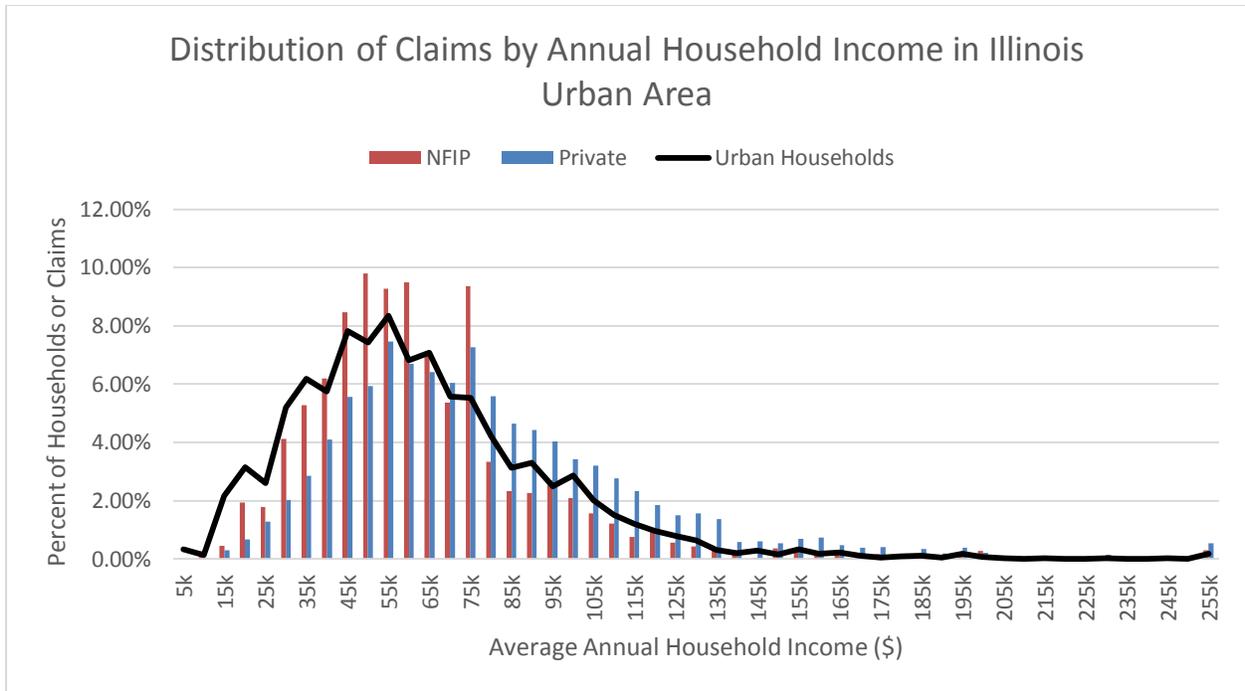


Figure 2b-1- This graph shows the distribution of annual household income for Illinois' urban areas and the distributions of annual house income for the NFIP and Private insurance claims 2007-2014.

***Are there existing conditions in your community that exacerbate vulnerability (e.g. environmental pollution, significant economic downturn)? You may cross-reference and summarize your response to the Most Impacted and Distressed threshold, if such a condition(s) is described there?***

Illinois is mostly bordered by large rivers and water from 24 states enters or flows along these Illinois' boundaries. Illinois also has one of the largest inland systems of rivers, lakes, and streams in the entire nation. Most of the inland streams have wide flat floodplains that encompass many structures due to the glaciated topography of the state. Due to the strong agricultural industry in the state, the state is blessed and cursed with an abundance of levee and non-levee embankments statewide, many of which are not adequately maintained, uncertified,

and not accredited but are intended to serve as active barriers to protect residential, commercial and public utility areas from rising floodwaters. Unfortunately, levee failures are a common occurrence in Illinois annually.

The region's infrastructure is designed based on historic standards that are now outmoded. Across the region, communities are experiencing greater risks of flooding due to inadequate infrastructure design. A storm event of 4.47 inches of rain in 24 hours is typically used for the design and engineering of stormwater systems. Such an event is assumed to have a 10 percent chance of occurring in any given year (a 10-year storm). Similarly, 7.58 inches of rain in 24 hours is the design storm for flood protection purposes, which represents a storm assumed to have a 1 percent chance of occurring in any given year (a 100-year storm). The historical frequency of these two extreme events shows that we are already underestimating the occurrence of extreme rainfall that can overwhelm stormwater systems and cause flooding. Historical analysis of heavy precipitation events in Chicago indicate that the rare 24-hour, 100-year storm, which on average occurs once in every 100 years, has been met or exceeded three times at Chicago O'Hare since the 1980s.

***What have you already done to address the risk from this vulnerability(ies)? What barriers are keeping you from completing a solution?***

For a discussion of what the State of Illinois has already done to address the risk from floodplain and urban flooding, please refer to the narratives provided in:

- Factor 4 Committed Leverage Resources; and
- Factor 5 Items #1 through #8.

The State of Illinois is also challenged with fiscal issues (barrier) that threaten the state's ability to adequately meet the demand for resilient disaster recovery needs in distressed target areas without additional supporting resources.

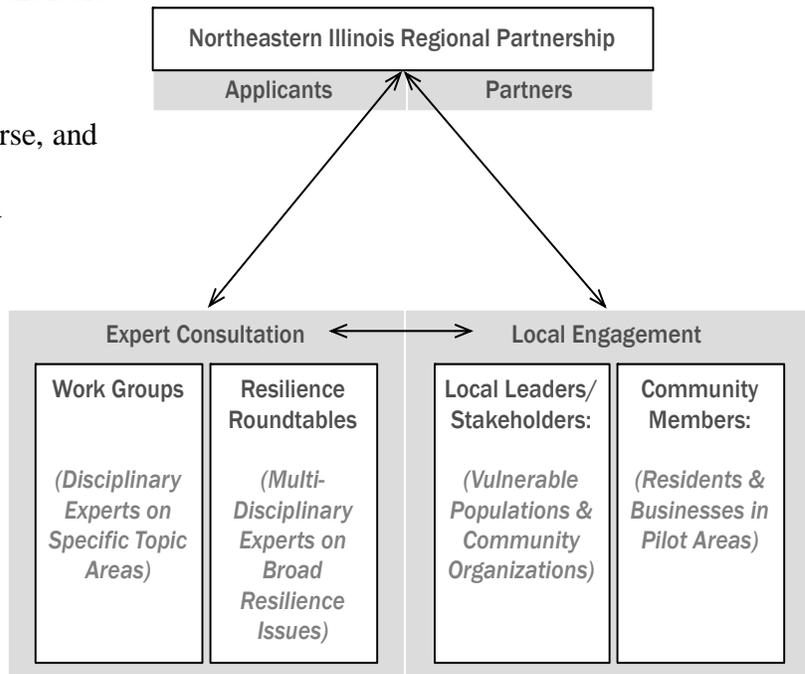
**Exhibit E - Factor 3: Soundness of Approach**

**Consultation**

Outreach and Engagement Approach

The State of Illinois and the Northeastern Illinois Resilience Partnership has convened over 275 stakeholders through 27 meetings held between November 2014 and March 2015. Stakeholders have included representatives from 41 units of government, 35 non-profit and community-based organizations, 15 research institutions, 8 foundations and 61 businesses (see Attachment D for a full list of stakeholders engaged to date).

To create meaningful, diverse, and efficient channels for outreach and consultation, the Partnership has employed a four-pronged approach to engagement: (1) engagement of local communities and stakeholders; (2) engagement of state leaders; (3) expert consultation; (3) community engagement meetings; and (4) partnership coordination meetings.



### Local community and stakeholder engagement

Each regional planning council in cooperation with the local community leads local stakeholder engagement meetings among its region, county and local stakeholders. Those attending local stakeholder include county government, local government, village and township board members, county emergency management, river rescue teams, senator and congressional offices, education, lending institutions, architectural and engineering firms, and non-for-profit services. The purpose of the meetings is to collaborate between all entities to determine vulnerabilities and resilience opportunities in the area. In the Phase 1, the meetings were incorporated in the community engagement meetings to allow the public to engage with the stakeholders and have a full community exchange of ideas regarding communities past events and future risk to address.

The meetings were open to the public and advertised to the community, its businesses and vulnerable residents by press release, email contact lists and television and radio news media interviews. The regional planning commission facilitated the event, a state applicant representative provided the program overview and locals were provided the opportunity for questions and feedback. All feedback was compiled and was used to identify unmet needs and will be used for identifying specific areas for consideration in the Phase 2 plan. In Phase 2, the community will provide feedback & questions on possible resilient solutions presented. This will allow the public to shape the future of its community and assure the unmet needs are accounted for in the final design.

### State leader engagement

The Illinois Statewide Resiliency Partnership consists of Illinois Department of Natural Resources, Illinois Emergency Management Agency, Department of Commerce and Economic

Development, Illinois Historic Preservation Agency into the State Resiliency Team. In response to the National Disaster Resiliency competition, the State is coordinating the expansion of this group into the State Resiliency Team to encompass 18 total agencies.

These newly added agencies are Illinois Department of Transportation, Illinois State Water Survey, Illinois Department of Agriculture, Illinois Capital Development Board, Illinois Commerce Commission, Economic Recovery Commission, Governor's Office, Lt. Governor's Office, Illinois Housing Development Authority, Illinois Department of Insurance, Illinois Department of Public Health and the Illinois Tollway. These meetings provided agency staff with technical information and recommendations to leverage available funding to implement solutions with co-benefits and improve communication and coordination among state agencies. This team of state agency representatives would convene to discuss ways to incorporate resilient measures in state implemented projects and to promote resiliency education statewide. The team will hold regular meetings to provide technical expertise and discuss leveraging multiple funding sources for recommending multi-benefit solutions to communities of the state, within and beyond the target areas.

#### Expert consultation

The Northeastern Illinois Partnership's expert consultation efforts have occurred in primarily two formats: (1) Work Groups and (2) Resilience Roundtables. The expert consultation efforts have broadened the conversation with thought leaders across the public, private, non-profit, philanthropic, and academic sectors; and have begun to help clarify their roles in collectively building regional resilience. Five work groups of 10-20 representatives were convened around specific content areas (as described below) to garner input on and inform the region's emerging resilience framework for action. Participants represented private firms, non-profit organizations,

academic and research institutions, and government agencies. The goal of these expert consultations was to provide ideas for specific innovative actions to leverage opportunities and overcome challenges and identify any barriers and challenges in implementing those activities.

1. Design & Engineering. This work group was convened by the Natural Resources Defense Council and engaged leaders from the design and engineering community, including Studio Gang and Farr & Associates. The group has begun to define key principles and recommendations for building more resilient infrastructure systems that provide a multitude of benefits. Into Phase 2, this work group will be instrumental in assisting the applicants formulate and refine proposed physical interventions to reduce hazard exposure and build resilience.

2. Financing the Future. The discussion revealed existing and emerging financial tools, like State revolving loan funds, stormwater fees, and social impact bonds, as potential mechanisms to fund interventions at the property, community, and regional scales.

3. Using Technology to Impact Behavior. Convened by the Center for Neighborhood Technology, this work group was comprised of thought leaders from the technology, innovation, research, and emergency management sectors. The discussion focused on the use of technology in (1) helping communities understand their risks through better data collection, predictive modeling, alert systems, awareness campaigns, etc. and (2) helping communities act on these risks with innovative tools to prepare, respond, and adapt to current and future disasters. Local researchers also pointed to new capabilities for downscale modeling of climate projections and flood forecast modeling at the local scale.

4. Economic Transformation & Opportunity. The Metropolitan Planning Council convened this work group of experts leading the region's workforce, community, and

economic development efforts. The group identified emerging jobs, services, and industries tied to resilience-building, particularly around urban food security and green infrastructure.

5. *Multiplying the Benefits.* Convened by the Delta Institute, this work group brought together ecologists, land conservationists, social scientists, and public health and social service experts. The group identified 25 priority vulnerabilities across our region's social and natural systems and recommended strategies for reducing them, including new approaches to build social cohesion, coordinate resilience messaging, and build individual and community preparedness.

Distilled from these work group discussions, a list of over 60 recommended resilience-building actions was used to inform the initial Partnership and Applicants' plans. These actions covered specific policy changes, research and modeling needs, finance mechanisms, planning activities, infrastructure modifications, and approaches to build adaptive capacity at the individual, community, municipal, and regional scales; many of which will be more thoroughly explored in Phase 2. The Partnership will continue to engage these work groups into Phase 2 and ensure their involvement in implementing the local and regional resilience plans.

### *Resilience Roundtables*

Resilience Roundtables are larger, monthly meetings that began in January 2015 and will continue over the next two years. Convened by the Metropolitan Planning Council, these meetings are designed to examine key issues related to building resilience with a diverse set of stakeholders and experts. The issue area covered each month changes and the meeting format consists of a few short presentations by national experts followed by a Roundtable discussion.

Resilience Roundtables are open to the public and attract stakeholders from diverse backgrounds and perspectives. National experts are invited to present on specific issue areas

related to resiliency and the competition, and engage in a discussion about how best practices can be applied in the State and Chicago metropolitan region.

The first Roundtable, “Mega-Storms, Mega-Regions, Mega-Plans” held on January 27, featured speakers from two winning Rebuild By Design teams, Kobi Ruthenberg and David Waggoner, and explored what makes a compelling application. The second, on March 6, was planned as part of the public comment period as a public forum for reviewing and discussing the regional applications for Phase 1. The third Roundtable, planned for April 14, will focus on the how to identify, measure, and intervene on social vulnerability; Jacqui Patterson of the NAACP Environmental and Climate Justice Program and Sarita Turner at Policy Link will be featured speakers.

These monthly Roundtable meetings will continue over the next two years and will cover issues such as adapting management and decision-making approaches within local government, accounting for sub-regional climate variations in regional resilience planning, and leveraging citizen data collection to track progress.

#### *Regional and Statewide Partnership coordination meetings*

Two partnerships have laid the foundation for a collaborative effort to share information and strengthen institutional networks at the local and regional scales. , The first consists of the Northeast Illinois Resiliency Partnership that includes the eligible Applicants from the Chicago region and IDNR. The second is a Statewide Resiliency Partnership led by IDNR that provides similar coordination among state agencies and other communities within Illinois. The Statewide Partnership provides local communities the opportunities, with assistance from their regional planning council, to submit any target that met threshold requirements to be included in the State’s application. Initial invitations were sent to all regional planning councils and as a result,

the state has proposed 10 target areas. Statewide attendees have included over 25 representatives from 3 state agencies, 7 regional planning councils and 5 local governments.

The goal of the Statewide Resiliency Partnership is to build new relationships between public agency representatives from across departments, including community and economic development, water and natural resource management, public health, and emergency management, among others; and create a collective understanding of the recovery needs, risks, and vulnerabilities in communities across the region.

In addition to regular meetings of the applicants and supporting non-profit partners, the Northeast Partnership has convened meetings among representatives from the stormwater management and planning departments of the adjoining counties (Kane, Will, Lake, Kendall, and McHenry), as well as the statewide regional planning councils. The Northeastern Illinois Partnership has also met with a group of the region's largest funders of environmental initiatives to begin to generate support for Phase 2. And, on behalf of the Partnership, the Natural Resources Defense Council convened meeting in Chicago with Rebuild By Design to learn more about the best practices of the winning teams in that competition.

Other timely and relevant events organized by members of the Northeastern Illinois Partnership have occurred during Phase 1, including the State of Illinois-organized Symposium on Urban Flooding (February 10, 2015) and monthly meetings of the Calumet Stormwater Collaborative convened by the Metropolitan Planning Council (November 7, 2014; December 5, 2014; January 9, 2015; February 6, 2015). The Northeastern Illinois Partnership will continue to engage new partners and advance a comprehensive regional resilience framework for action, well beyond Phase 1.

## How consultation affected the proposal

Through the engagement of public agencies, community residents, local businesses, regional experts, and vulnerable populations, the Partnership has developed a thorough understanding of the regional and local:

- Priority vulnerabilities across our built, natural, and social systems (from aging infrastructure to loss of biodiversity to unemployment). Consultations revealed the compounding interactions between these vulnerabilities, including, for instance, vulnerable public transportation systems potentially exacerbating unemployment for residents reliant on public transit to travel to work safely and on-time.
- Unmet recovery needs, in light of federally declared disasters as well as those as a result of chronic and repetitive hazards since;
- Current and future hazards, both shocks and stresses including weather-related events, lack of affordable housing, and violence;
- Direct and indirect risks, including increase in hospitalization rates and potential for contamination; as well as,
- Existing and emerging tools and opportunities to build regional resilience.

Influential insights from consultations include, but are not limited to:

- Prioritize most vulnerable communities and meet them where they are with information, technology, and resources.
- Reduce single-points of failure by creating redundancies through decentralized systems (i.e., for stormwater storage, energy production, etc.).
- Leverage existing community engagement processes/channels by coordinating with the public health, social services, and library systems.

- Improve trust between residents and public agencies through two-way communication channels that ensure key information about risks, actions, and impacts is shared.
- Balance effort between (1) pressing preparations and recovery in time of disaster with (2) long-term proactive actions and transformative change.
- Consider flexible policies that encourage the betterment and improvement through recovery, rather than return to the previous state.
- Plan to evolve resilience-building strategies with future forces of change (i.e., new technology, market demand, shifting hazards, etc.).
- The impacts of flooding on wastewater treatment plants, schools and child care resulting in compounding stresses to local businesses and economy and the environment.

#### Future activities – Phase 2 and beyond

The types of consultation described above will continue through Phase 2 and beyond, and be further strengthened through the involvement of additional stakeholders. The Northeastern Regional partnership and the Statewide partnerships will continue to meet regularly through October 2015, and determine meetings schedule beyond that in order to establish a collaborative structure to:

- Coordinate on projects, policy making, communication efforts, and grant applications
- Share best practices and lessons learned from pilot projects
- Report on progress and metrics for measuring impact
- Connect to and inform relevant efforts outside of the Partnership

Local leaders and stakeholders, including vulnerable populations and the organizations that represent them, will be included in the localized planning activities conducted by each target area. Already, as explained in Factor 2, the pilot areas have been chosen in part because of their concentration of vulnerable populations and businesses. Phase 2 will include a robust engagement process that builds community resilience by increasing the knowledge and resources available to vulnerable communities in addressing flooding; strengthens long-term social networks within communities and connections between communities and public agencies; and integrates local and technical understanding by providing opportunities for vulnerable populations to work with designers and decision-makers. The State of Illinois and its statewide partners will host public meetings to hear directly from residents and businesses, and will consult with community-based organizations and local leaders for additional insight into the issues faced by vulnerable groups.

## **Ideas and Concepts**

### Introduction: overall approach

Catalyzed by the National Disaster Resilience Competition, the Northeastern Illinois Resilience Partnership (Northeast Partnership) seeks to build regional resilience to current and future hazards, stressors, and shocks by addressing each factor of vulnerability—physical exposure, population sensitivity, and adaptive capacity (as defined by the IPCC). Resilience to flooding will be a focus, as floods were the qualifying disaster the jurisdictions in the Partnership, and flooding exposes vulnerabilities across our interacting built, natural, and social systems. All members of the Partnership experience chronic flooding, particularly urban flooding associated with intense rainfalls that overwhelm existing stormwater infrastructure. Based on the philosophy that preparedness for *any* disaster builds capacity to respond to *every*

disaster, the ideas and concepts proposed also improve resilience more broadly. They are meant to improve the region's resilience to other threats such as extreme heat and drought, as well as chronic stresses like economic disinvestment or unemployment.

Resilience will be approached at both the community and regional scales. Working at both these scales will allow the Partnership to build resilience in our most vulnerable communities, while also making transformative infrastructural and institutional changes that equip the region as a whole to be more resilient in the face of a wide range of stressors and shocks, including climate change. The Partnership's ideas and concepts can be divided into three categories of work:

1. Detailed Resilience Plans, covering three Northeastern Illinois regional pilot areas and ten pilot areas across the remaining state. Each Plan will be led by the submitting applicant in an area that is representative of typical characteristics found in the region across social, ecological, and built profiles. Each will include significant technical analysis, community engagement, and prioritization of solutions to maximize co-benefits.
2. Cross-jurisdictional coordination of these Plans, with the goal of scaling them up to a regional, then statewide approach. Coordination of the Plans is meant to improve the level of innovation and quality within each, ensure that impacts are considered across jurisdictions, improve the state of practice for addressing resilience among the designers, and ultimately develop a template for resilience planning that can be used in other geographies.
3. A set of activities grouped into the Regional Resilience Framework. The broadest of the work categories, the Framework includes data and modeling, planning,

capacity-building, financial mechanisms, and policy and institutional changes, led by a variety of stakeholder groups.

#### Detailed Multi-Hazard Resilience Plans

The State of Illinois in cooperation with the statewide partners will develop a Detailed Multi-Hazard Resilience Plan (Plan) between March and October 2015. This Plan will focus on addressing unmet needs within the pilot areas described in Factor 2 as well as additional challenges identified through current and future engagement of the public. As one of four applicants in the Northeastern Partnership, these plans will allow applicants to develop innovative and lasting solutions for vulnerabilities that are shared with many other places within the region. The Plan will result in recommendations for local capital investments and local policy or institutional changes. The planning process is meant to ready The State of Illinois to submit a strong proposal in response to Phase 2 of the Competition and contribute to the activities described in parts 2 and 3 of Factor 3b. The State of Illinois's plan will be prepared in cooperation with a design team of contractors, including architects, landscape architects, engineers, urban planners, outreach specialists, and other technical experts, whose qualifications are presented in Factor 1b.

Each Plan will examine existing conditions and vulnerabilities of community assets, bring technical experts and vulnerable communities together to jointly define goals, develop alternative methods to address opportunities and challenges, evaluate these alternatives against performance measures to maximize co-benefits, and recommend solutions (including but not limited to capital investments) that best achieve the Plan's goals.

While each Applicant will refine their approach through the Plan, the types of solutions that will be considered include:

## *1. Leadership and Strategy*

- a. Amending State, County and municipal policies so that standards, incentives, easements, administrative procedures and enforcement are sufficient to support effective flood control, restore and protect natural areas, and facilitate buyouts where desirable.
- b. Use all forms of public infrastructure — prioritize solutions on the public right of way (as part of transportation infrastructure, primarily), to maximize the use of these assets, then within parks and other publicly-owned facilities, and then on vacant, publicly-owned land; privately-owned land is a lower priority, due to long-term maintenance responsibility concerns.
- c. Sewer-shed buyouts — for those areas identified as being impacted by relatively small rainfall events, or located in “choke points” where stormwater often backs up, examine the purchasing of properties to eliminate flood risk and create new spaces for green infrastructure, grey infrastructure and restoration of natural systems.

## *2. Infrastructure and Environment*

- a. Completing essential infrastructure projects, including repair and of Spring Valley waste water treatment plant, Meridian Road improve the resiliency of critical infrastructure to the community and businesses.
- b. Green infrastructure, specifically widespread deployment of projects that infiltrate, intercept, delay, and detain rainwater before it can reach stormwater drains and pipes.

- c. Floodplain buyouts — pursue buyouts of properties that have been repeatedly flooded or substantially flooded or are at risk of damage as climate change effects precipitation patterns.
  - d. Restoring tree canopy and urban forestry — as many of the pilot project areas have little or no tree canopy, plant trees to enhance the capacity of urban soils to retain stormwater and decreasing the quantity of excess runoff through transpiration and evaporation.
3. *Economy and Society*
- a. Improving the capacity and resilience of the transportation system during floods, severe storms, or blackouts, and roadway improvements that reduce the likelihood and impact of flood-related road closures.
  - b. Developing an early flood warning system for the Cairo and Brookport that can be replicated throughout the state, which would provide valuable information to the public reducing the likelihood of serious injuries, property damage, and disruptions to emergency services during floods.
4. *Health and Wellbeing*
- a. Conducting ongoing engagement, outreach and education on community hazards, building residents’ awareness, and connecting organizations, businesses and agencies with watershed issues in continuing and innovative ways.
  - b. Private property retrofits — achieved through RainReady, a community-centered program that helps assess how flooding has affected residents and supports stormwater retrofits on individual properties.

- c. Basement-to-Cistern conversions — for flood-prone properties that are bought out, remove the above grade structure and conduct an engineering analysis to determine if the pre-existing basement can be used for in-ground detention, retrofitting these formerly vulnerable basements into an integrated component of a functioning stormwater management system.

Some features of each Plan are described further in other part of the proposal: (1) it will be coordinated with the Plans being pursued by the other applicants that make up the Partnership, as discussed in Factor 3b, part 3; (2) vulnerable groups will be co-creators and collaborators to design and implement the plan, as discussed in Factor 3a; and (3) it will prioritize solutions with outcomes that create multiple benefits, as discussed in Factor 4a.

#### Regional Scaling and Replicability

Achieving regional benefits from the pilot studies described above will require cross-jurisdictional collaboration with the full Partnership. While the State of Illinois will manage and administer the preparation of its own Plan, it will coordinate closely with the other members of the Statewide Partners, recognizing that otherwise a disconnected approach may result.

The State of Illinois's design team will regularly communicate with the design teams contracted by the other applicants. This will occur in small, focused settings, involving the applicants, design teams, and other groups by invitation. The applicants and the design teams will share findings, best practices, and lessons learned to help inform the results of other Plans. These meetings will occur regularly, and will sometimes involve site tours. Involvement of the expert advisers that formed the design and engineering work group (described in Factor 3a) is expected at this stage.

Each design team will also participate in regional educational and coordination efforts that involve researchers, climate scientists, groups who represent vulnerable populations, and many others. The planned Resilience Roundtables are one example of this regional coordination, and several of these will be focused on topics of interest to the design teams. Benefits of coordination include:

- Coordination allows peer review and feedback from regional experts on each Plan. The design teams will learn from regional experts about the impacts on climate change, best practices in involving vulnerable populations in planning, and similar topics, ensuring that these topics are fully integrated within each plan. Involvement of multidisciplinary experts will help to highlight interdependencies between sectors such as housing or community development that may not be present on the design teams.
- Stormwater, flooding, and resilience are multijurisdictional in nature. Regional coordination will provide a mechanism to examine the impact of each Plan on a broader geography, including adjacent areas. The State of Illinois affects and is likewise affected by neighboring jurisdictions. Regional coordination will avoid problematic approaches, like making infrastructure investments that simply push flooding problems downstream. The “regional scaling” process provides an opportunity for other jurisdictions to be involved; the Applicants have already entered into an agreement to work together, and other adjacent units of government have expressed willingness to cooperate as well.

- Each Plan has statewide implications. The pilot areas are representative of types of flooding and impacts that respond to the regional context presented in Factor 2.

The solutions in each pilot will also be applicable to other geographies.

- Continual peer review will lead to self-assessment of practices and solutions that are most effective.

Ultimately, the pilot areas are meant to create a model for Detailed Resiliency Plans that can be used statewide. Many other areas also suffer from chronic, repetitive flooding, and are equally in need of detailed plans for community resilience. A model approach allows resilience concepts to be applied to plans produced beyond the timeframe of the CDBG-NDR grant, providing a lasting, long-term commitment to address resilience.

This element of the proposal was inspired by the process used for Rebuild by Design (RBD), with further emphasis on regional collaboration between design teams. Its collaborative nature takes advantage of the region's existing institutional capacity. The Chicago region houses the Congress for the New Urbanism (CNU) and the American Planning Association (APA), the nation's two leading planning organizations, both of which will co-host events to involve their membership. The local chapters of APA and CNU, as well as similar professional organizations of architects, landscape architects, and engineers, will be involved as well.

### Regional Resilience Framework

Many of the plans and policies in the Partnership's participating jurisdictions were developed based on incomplete assumptions of the current and future intensity and volumes of rainfall and stormwater. It is the intention of the Partnership to do a comprehensive analysis of relevant plans, policies, and practices that influence the risk of all types of flooding. This will be done with the full input of stakeholders and members of the Partnership's various workgroups. In

the course of Phase 2, the Partnership will identify and prioritize the amendment and creation of new policies and guidance, where practicable. An initial scan of key policies, plans, and other institutional practices has identified the following potential areas of opportunity; these are examples, not a comprehensive list.

Policy and regulatory change: Several examples of policy and institutional changes are below; these will be further explored and prioritized by the Partnership during Phase 2. Specific resilience financing proposals are discussed in Factor 4b.

Through the Urban Flood Awareness Act, the State of Illinois will propose recommended model stormwater ordinance provisions that will incorporate climate change trends and resilience. Many downstate communities in Illinois are requesting model stormwater ordinances to improve their communities. Innovative and effective design practices generated from the Detailed Multi-Hazard Resiliency Plans can also be integrated into infrastructure design standards. For example, transportation agencies can incorporate green infrastructure design into roadway improvement projects, and can account for new flooding expectations due to climate change when designing transportation facilities. These design practice changes will be accomplished through trainings for staff in local transportation or public works departments.

The State of Illinois also proposes to enact regulatory and policy changes to enable certain aspects of resiliency planning and design. The Illinois Department of Natural Resources (IDNR) will seek to implement certain recommendations of the ongoing Urban Flood Awareness Act, which covers areas outside of floodplains that receive chronic flooding due to basement backups and limited sewer capacity. The state plumbing code should also be amended to allow for the re-use of water. The impacts on urban flooding as a result of climate change impacts will be evaluated which may include recommendation for communities to adapt to climate change

affects. A model storm water ordinance will produced addressing the recommendations of the report.

The State of Illinois and the Illinois State Water Survey are discussing a future study to modify the state's rainfall distribution and rainfall depth design standards to account for climate change affects. Current state standards are based on historic events and assume these events are representative for future events. The study would account for climate change when performing analysis on past events and require a future adjustment that incorporates the proposed project life. An example of this would be a 1930 historical flood event of 7.8 inches of rainfall driving the "100-year storm" for the design of a project. In currents standards a designer may utilize the exact storm. In standards addressing climate change, the storm may be equivalent to 8.6 inches today and result in 9.2 inches of rainfall for a proposed floodwall that has a design life to the year 2065. Additionally, the revised study may show a change how the storms intensity during the event. The Office of Water Resources of would adapt any the new standards are requirements for regulating the floodplains in the state of Illinois. The state would act as a catalyst for local and regional ordinances to adapt these standards and garner support from professional organizations.

Lastly, the State will explore options for interagency coordination of resilience activities. This may accomplished by establishing a resilience working group made up of representatives from all state agencies or by selecting a single resilience officer to lead various resiliency efforts. This effort detailed in Factor 3a in the State Leaders Engagement section

Data, modeling, research: The Partnership proposes to integrate myriad disconnected data sets, modeling efforts and other decision-making support tools to build a more comprehensive system for watershed and sewershed management and infrastructure optimization. The vision for

this integrated system is that multiple parties would have access to the same decision-making support tools, using the same data, with the capability of assessing upstream and downstream impacts of a variety of stormwater management intervention decisions, at a variety of scales. This system will solve many problems – community planning efforts often have no technical grounding to determine benefits within a local sewer system, municipal stormwater decisions often cannot account for impacts across municipal lines, regional stormwater systems often have coarse understanding of local sewer systems, and land use or landscape changes are not adequately accounted for. Additionally, improvements and updates to climate and precipitation modeling occur more frequently and faster than policies that utilize those data. A regional optimization system, managed and used by the Partnership, will ensure that leading scientific knowledge impacts decision-making faster and more comprehensively.

The vision for the Partnership’s integrated regional optimization system leverages the work of the CSC, and in time will build a framework through which local planning efforts will utilize real-time and localized climate and precipitation data, on-the-fly inundation mapping, detailed soil permeability, flow paths, and current sewer and waterway capacity assessments. These improved data sources will maximize the benefits derived from public and private investments through science-based and community-informed capital improvement planning. Funding agencies, such as Illinois EPA, will be more confident that projects derived from such a system will truly be part of systemic solutions, rather than one off fixes. Community organizations will be empowered to propose technically credible localized solutions, and partnerships across borders will be formed.

This will require integration of existing tools, data sharing agreements, and concerted efforts to maintain the integrity, accuracy and widespread use of the regional optimization

system. Thus the Partnership as an institutional framework and the regional optimization system as a technical framework are fundamentally intertwined.

Planning: The Partnership proposes to integrate resilience into local plans and regulations, including comprehensive plans, zoning ordinances and development regulations, watershed plans, hazard mitigation plans, and capital improvement plans (CIPs). Integrating resilience within a comprehensive planning process allows interdependent solutions to be explored. For example, localized flooding may be ameliorated through installation of green infrastructure as part of road reconstruction projects, which may in turn achieve community development goals like revitalization of nearby vacant properties. Considering multiple topics at once will help also communities to prioritize competing needs that cross departmental responsibilities.

CMAP's Local Technical Assistance (LTA) program, which was initiated by a HUD Sustainable Communities Regional Planning grant, funds local plans and ordinances that address transportation, land use, economic and community development, housing, the natural environment, and other topics. Each plan includes an inclusive outreach process and results in recommendations for infrastructure investment, regulatory changes, and policy actions. CMAP will integrate resilience as a regular part of these plans, using its 2013 Climate Adaptation Guidebook as an important starting point.

The Partnership also proposes to integrate two distinct types of watershed planning. One is funded through the Illinois Environmental Protection Agency (IEPA), and covers stream quality, in line with the Clean Water Act; the other is prepared by stormwater management agencies, and focuses on flood reduction. Watershed plans that address both water quality and stormwater management would allow multiple goals to be achieved through a single plan. Other

types of plans would also benefit from additional inclusion of resilience; for example, hazard mitigation plans should directly consider likely impacts of climate change.

Economic and workforce opportunities: Public agencies and workforce development boards and intermediaries will train and connect the local workforce with on-the-ground projects (for example for the construction, design, and maintenance of resilient green infrastructure). The workforce training providers will also explore the creation of workforce programs aimed at vulnerable populations who have lost jobs or income due to disaster, as well as identify key recovery jobs needed after various types of disasters to build a workforce and economy that is prepared for a range of potential hazards. In addition to addressing the “supply side” of trained workers, the Partnership’s efforts to increase the amount of green infrastructure will build demand for its construction and maintenance. These and other economic and workforce activities will build from an existing CSC working group.

Capacity building and education activities: Achieving resilience requires capacity-building and education at many levels. To address vulnerable populations who are directly affected by flooding, the Partnership will hold workshops through Rain Ready and the Illinois Association of Floodplain and Stormwater Managers (IAFSM) that educate local residents and businesses about flooding resilience strategies, connect them with funding opportunities, and increase preparedness for a range of hazards beyond flooding. For example, such trainings may leverage existing social networks, such as neighborhood watch programs or block clubs, for community advanced warning systems to prepare for extreme weather events.

## **Exhibit F: Factor 4**

### **Outcomes**

Each Detailed Resilience Plan (described in Factor 3b) will evaluate alternative methods – such as green infrastructure, grey infrastructure, or use of innovative technology and design – that address flood mitigation while achieving additional co-benefits. Each alternative will be evaluated against a set of performance measures. Specific performance measures will vary between pilot areas, but will fall within categories that are shared across applicants. These categories, and the specific measures that the State of Illinois in cooperation with our regional planning partners and stakeholder advisory committees will use, include:

#### **Leadership and Strategy**

Amending ordinances and standards directly benefits the home owner by not allowing them to build in flood-prone areas. The co-benefits may include reduced emergency response needs, improved public health conditions after a disaster occurs and restored and protect natural areas. Purchasing properties the are “choke points” for Stormwater to increase conveyance in the are provides direct benefits to the upstream land owners. The co-benefits may include decrease in traffic impacts and public safety on roads, the ability to increase green space and runoff infiltration and removing blighted areas in the community. The outcome measurement utilized will include the number of ordinances and plans amended and the number of choke points removed.

#### **Infrastructure and Environmental**

Green infrastructure reduces runoff and flooding in a community. Additionally it can help replenish groundwater supplies to local shallow aquifers and can reduce the impacts to urban heat islands. Floodplain structure buyout eliminate flood damages to individual structure.

The buyout of the homes reduce public safety threats to residents and emergency responders during disasters, reduce upstream impacts by adding conveyance to the waterways, allows restoration of natural areas, develop riverside parks or additional recreational along a natural feature. The outcome measure utilized for this category will include area converted to green infrastructure and the number of properties purchased in a flood prone area.

### Economy and Society

Improving transportation capacity and resiliency will allow for reduction in economic impacts during a disaster. The co-benefits would include reduced maintenance and repair costs to the supporting infrastructure, reduced stress and impacts to alternative transportation systems during disasters. Development of early warning system will increase public safety and may reduce personal property damage. The co-benefits would include reduced crime, violence, accidents and panic among a community that is not well informed. The outcome measure utilized for economy and society include the number of improvements to transportation systems and the number of early warning systems implemented within the project area.

### Health and Wellbeing

Improving ongoing community engagement communicates the hazards and risks of the community. The engagement also bring the community together to determine the future and have a voice in discussing the direction of the solution. Better solutions can be determined with a larger stakeholder coalition form the end product. Private property retrofits reduce the hazard risks of individual properties. Additionally, it informs a resident in how they can solve their problem and make improvements that could benefit neighbors and the community while reducing potential heath risk and stresses that can occur following disasters. The outcome

measure utilized for Health and Wellbeing include the number of community engagement meeting held and the number of private property retrofits implemented.

For all categories co-benefits may include environmental and ecosystem benefits, particularly when connected with broader networks of open space and workforce and training opportunities for lower-skill workers in its maintenance.

Stakeholders and experts will be involved, through the regional scaling up process (described in Factor 3b, part 2), to assess the performance of each alternative against these factors. The scaling up process will also be used to review and improve the measures through intensive peer review.

Locally, success is measured by more resilient communities and infrastructure, and the ability of a previously vulnerable community to encounter an event without it becoming a disaster. Success is also a community that is better prepared to respond to an event and to quickly recover with minimal loss.

By focusing our efforts on increasing resiliency through regionally led **local stakeholder advisory committees** in areas that have demonstrated a high degree of vulnerability, we will lessen the impact of future disasters. By utilizing the broad view points and expertise of a local stakeholder advisory committee, and the performance measures noted above, disaster recovery alternatives can be crafted into resiliency projects that provide co-benefits, like recreational opportunities, stormwater management, summer cooling, or habitat restoration and help economically revitalize distressed target areas.

## **Leverage**

## Financing

Through the “Financing the Future” workgroup, the Partnership (State of Illinois, city of Chicago, Cook County, and DuPage County) is engaging a broad range of banks and insurance companies in the area to discuss how they may incentivize resilient practices from residences, business, and large landholders in the area. Participants in this group included representatives from Wells Fargo, the Chicago Community Loan Fund, Ameresco, community development financial institutions (CDFIs), land banks, and finance consulting groups.

This group explored a range of options for new revenues to fund resilience planning—with a particular focus on green infrastructure financing. To leverage existing housing and transportation resources for stormwater management, the group suggested leveraging Low Income Housing Tax Credits for resilient design and working with CDFIs to underwrite home improvements to be able to scale innovative designs across the state and region. These options underscore the need for performance-based investments that can demonstrate flood reduction, while also providing benefits to low-income households who have the least ability to finance retrofits.

As part of the Partnership, the State of Illinois, in cooperation with the Association of State Floodplain Managers (ASFPM) Foundation held an Urban Flood Risk Symposium on February 10<sup>th</sup> to explore topics, and alternative means to fund urban flood risk reduction solutions with representatives from the insurance, finance, engineering and real estate fields.

Through both of these gatherings, potential new streams of revenue were identified that could be established for resiliency planning activities, including stormwater fees, social impact bonds, and value-capture mechanisms similar to tax increment financing that can recover the private property value gains from public infrastructure investments. The group also identified

opportunities to use transportation infrastructure investments for stormwater capture. Making these funding sources available would reduce FEMA and private insurance payouts on flood damages, while also improving property value and economic development in the community.

Through the collaboration in the State Resiliency Team, the Northeastern Illinois Partnership, statewide regional planning commissions, and the regionally led **local stakeholder advisory committees**, additional financing sources can potentially be identified in the target areas when co-benefits of a particular resiliency alternative accomplish particular goals of other programs (health, environmental, community development, water quality, etc.) thereby justifying additional funding resources from those programs seeking such co-benefits of an alternative.

### Insurance

The insurance industry has also been a key player in identifying long-term leverage for resilience. With the 2014 Urban Flooding Awareness Act, the State of Illinois through IDNR has been undergoing a study of the cost and prevalence of urban flooding problems across Illinois. For this investigation, the IDNR's Office of Water Resources and Illinois Department of Insurance collected data from the FEMA National Flood Insurance Program (NFIP), as well as all private insurers in the state requesting insurance claim data for flood damage claims in Illinois from 2007-2014. Together, these claims data provide the most comprehensive picture of all types of flooding across the state, including basement back-ups and floods that occur outside of a floodplain. The insurance data shows the severity of chronic urban flooding in Illinois: 89% of all Illinois NFIP and private insurance claims were located within urban areas.

The final study, which will be completed in June 2015, is expected to identify potential revisions to flood insurance programs and update regulations to support innovative and cost-effective stormwater management strategies. These recommendations will provide a roadmap for

FEMA, private insurance companies, and state and local governments on long-term changes that will enable better community preparedness for flooding. The study is also a catalyst to potential additional state funded, urban flood risk reduction programs in various state agencies and/or local governments.

The Partnership has also identified renter's insurance as a major concern. Given the high proportion of renters in this region, many residents are under-insured. Most private insurance policies only cover replacement of appliances in a range of \$5,000-\$10,000. Many families live in below-grade apartments, or have homes that have living space in the basement. For most people, insurance coverage for below grade living spaces is cost prohibitive. Innovative solutions that involve the insurance industry will be necessary to address this problem, and are explored further in Phase 2.

#### Committed Leverage Resources

As described in Factor 5, the State of Illinois committed to funding the completion (\$350,000) of the Urban Flood Awareness Report in partnership with the Prairie Institutes' Illinois State Water Survey including the development of an updated model stormwater ordinance (\$100,000) to reflect urban flood resilience and climate change trends. It is also committed to completing the City of Rockford Structural Flood Risk Assessment pilot project to assess and prioritize flood risk mitigation measures for all flood prone structures along all tributaries into and through the City.

Through the IDNR, Office of Water Resources Flood Hazard Mitigation Program, the State of Illinois is **committed to providing at least \$250,000 in direct financial assistance** for acquisition and demolition of repetitive loss floodprone properties in target areas based on a structural flood risk assessment and prioritization of these properties.

## **Factor 5: Regional Coordination and Long-Term Commitment**

Regardless of the HUD funding award outcome, the State of Illinois and the Regional Partnership commit to a number of local, regional, and state activities to ensure long-lasting changes to increase resilience in Illinois. The activities described below will be implemented within one year of the announcement of Phase 2 results and occur in communities within and outside of the identified most impacted and distressed areas. Additional activities included in Factor 3b will also be undertaken, but may require additional time.

Illinois has one of the largest inland systems of rivers, lakes and streams in the United States. Nearly 15% of our total land area (or 7,400 square miles) is subject to flooding. To continue to reduce risk and improve community resiliency in Illinois, the State is committed to:

1. Continuing to develop and support a **State of Illinois Resiliency Team** led by the Department of Natural Resources that convenes to discuss ways to incorporate/improve resilient measures in state implemented or funded projects and to promote resiliency education statewide. This collaboration provides a venue for the exchange of lessons learned through sponsored continuing education opportunities and the open sharing of successful and unsuccessful project measures in venerable communities statewide. Recently this collaboration resulted in several contiguous repetitive flood loss buyout properties in Alexander County, Illinois being incorporated into the expansion of Horseshoe Lake State Park to expand ecological restoration and recreation opportunities near Olive Branch, Illinois, which depends on park tourism in part to support its local economy. Success of this commitment will be measured by the

number of at-risk communities assisted each year with a goal to improve resiliency in at least 5 communities each year.

2. The **purchase and demolition of repetitive flood loss properties** statewide through the State's [Flood Hazard Mitigation Program](#) including the ongoing purchase and demolition of 164 properties in the target areas of Alexander County, City of Des Plaines (Cook County) and DuPage County in partnership with these communities to carry out the goals of their hazard mitigation plans. Each purchase and demolition improves the long term resiliency of the partnering community for the next event and creates the opportunity for multiple benefits including community garden sites, parks, and reduced disaster response needs. The state's Flood Hazard Mitigation Program is currently directly assisting 8 communities statewide (Alexander County, DuPage County, McHenry County, Des Plaines, Pearl City, Gallatin County, Freeport and South Elgin) and has committed \$10.8 million dollars to these resilient actions which has leveraged over \$30 million dollars from federal and local partners for the buyout of an additional 241 at-risk structures. The state through its Department of Natural Resources, Office of Water Resources, is committed to continue funding the Flood Hazard Mitigation Program. The continued success of this program will depend on further continued collaboration with other communities and agencies in Illinois who are also engaged in similar purchase and demolition of repetitive flood loss properties to optimize resources and learn from each other. Currently 23 properties have been purchased and demolished (the baseline) in these active projects. Success of this commitment will be measured by the number of at-risk structures removed each year with a goal to directly remove at least

25 structures each year and leverage the removal of at least 75 additional structures through federal and local partnerships.

3. The State of Illinois is committed to continued enforcement and [regulation of higher standards](#) in Illinois floodplains, floodways and Public Waters. The higher than national standards implemented in Illinois include no allowable stage increases in known flood damage reaches, 0.1 foot floodways that include the preservation of 90% of the floodplain storage, and a model floodplain management ordinance that includes a cumulative substantial improvement and substantial damage threshold, rather than a one-time event. This cumulative standard adds up all previous improvements or damage, or over a certain number of years. Once that threshold is met it is a requirement of the NFIP that the property be elevated. The State is committed to providing the necessary resources to administer these higher standards through the NFIP, Dam Safety and State Floodplain Management Regulatory Programs. The State of Illinois will also continue to judiciously allocate water from Lake Michigan and carefully regulate encroachments and uses of this precious resource. The State is also finalizing draft Technical Guidelines to help individuals and communities seeking IDNR authorization for proposed floodway activities to better understand these standards and the State's permit application review process.

4. **Legislative Actions:** [HB3240](#) – Amends the State's Rivers, Lakes and Streams Act (615ILCS 5/26a) to provide the Illinois Department of Natural Resources greater authority to issue orders requiring all necessary remedial actions to correct violations of the Act and to impose greater civil penalties toward restitution, restoration and/or remediation of illegal water resources activities. [HB3525](#) – **Illinois Home and**

**Business Flood Protection and Loan Fund** proposed as an amendment to the Department of Natural Resources Act. This amendment would allow the State to provide low interest loans to municipalities and other local governments to finance public mitigation projects and/or provide financial assistance to distressed homeowners and businesses to provide relief from damage created by urban flooding.

5. **Clean Water State Revolving Fund:** This year the Illinois EPA is expected to finalize regulations that will make low interest financing available through its Clean Water State Revolving Fund (CWSRF) for the first time ever for urban stormwater, green infrastructure, water efficiency and projects intended to make water infrastructure more resilient. Legislation enacted in 2014 expanded the list of eligible projects that could access the CWSRF. This new eligibility also comes at a time when Illinois EPA is contemplating expansion of CWSRF resources through the sale of bonds. *Metric:* Number of project applications to the CWSRF for green infrastructure and urban stormwater Dollars of loan funding awarded to projects for green infrastructure and urban stormwater. *Baseline:* Currently, no CWSRF financing can be used toward green infrastructure and urban stormwater projects.

6. The State of Illinois is also reviewing stormwater management ordinances and stormwater management practices, such as sewer restrictors, backflow, street landscapes, open drainage ditches, rain gardens, pervious pavement in Illinois and outside of Illinois to identify successful stormwater management practices to **draft a model ordinance** that employs best practices and practical low cost approaches. Recommended components of this new ordinance will be completed in June 2015 with a goal to complete the model ordinance within one year.

7. **State Structural Risk Assessment:** To advance mitigation actions in flood prone Illinois communities, the State of Illinois is committed to expand the implementation of a GIS database of flood hazard risk for every structure located within or near a designated floodplain to: prioritize federal, state and local mitigation assistance to advance mitigation within these communities; estimate event related flood damages (based on flood forecasts) to determine anticipated emergency response needs to vulnerable populations; estimate event related flood damages recovery needs of vulnerable populations (based on post flood high water mark elevations); update community hazard plans, and evaluate the benefit/cost economics of potential structural flood risk reduction activities including acquisition and demolition of repetitive loss structures.

Acquisition and elimination of repetitive loss structures, in high risk areas, provides the opportunity to increase the resiliency of a community to flooding. This holds the potential for additional public benefits including greenways, wetland areas, community gardens and parks. The database will provide an assessment of each floodplain structure based on known structure types, structure appraised values, and surveyed first floor/low entry information.

The IDNR, Office of Water Resources has completed structural flood damage assessments of structures in the Lower Cache Watershed in Alexander County, along the Skokie and Middle Fork Branches of the North Branch Chicago River in Lake and Cook Counties, and along Farmers Creek in Cook County. The assessment in Alexander County has led to the acquisition and demolition of 144 structures in this distressed portion of the state. The State of Illinois is also partnered with the City of Rockford to

assess and prioritize flood risk mitigation measures for all flood prone structures along all tributaries into and through the City. Success will be measured in number of structures assessed and prioritized for mitigation action with a goal to complete the assessment of all 1000 structures in Rockford by September 2016 and implement at least 10 appropriate mitigation actions in the most distressed portions of this watershed in 2016/17. Success will be measured by the number of communities assessed and added to the State database each year with a goal to complete this resilience action in the noted target areas within the next 2 years and the remainder of the state over the next 10 years.

8. [The Urban Flooding Awareness Study](#) investigates the impacts and possible remedies related to “urban” non-riverine flood damages in Illinois. The State DNR, Office of Water Resources will produce a report for the Illinois General Assembly by June 30, 2015 that addresses: The prevalence and costs associated with urban flooding events across the State, and the trends in frequency and severity over the past two decades; The apparent **impact of global climate change** on urban flooding; the impacts of county stormwater programs on urban flooding over the past two decades, including a listing of projects and programs and the flood damages avoided; an evaluation of policies, such as using the 100-year storm as the standard for designing urban stormwater detention infrastructure and the 10-year storm for the design of stormwater conveyance systems; review of technology including green infrastructure measures and development of new strategies to reduce losses; strategies to increase NFIP participation, and to increase flood insurance coverage. Success will be measured by how many new state programs and/or funding sources are created in 2015 and 2016 above a

zero baseline to address urban flood issues in Illinois and climate change in resilient ways after the report is presented to the General Assembly in June 2015.

**PARTNERSHIP COMMITMENTS:**

**NE Regional Partnership:** CMAP's role in developing a range of local plans, including comprehensive plans, zoning ordinance updates, capital improvement plans, and watershed plans, provide a natural platform for ensuring that local plans are updated according to latest climate and flooding information and aligned with regional resiliency goals. *Metric:* The Partnership will measure regional outcomes by the number and total cost of initiated local plans that incorporate climate considerations and the total population/total land area covered by such plans. *Baseline:* No plans directly consider climate change.

**North Central Illinois Council of Governments (NCICG):** The Illinois Valley Resiliency Alliance of 18 active communities from four (4) counties was created on Feb. 12, 2014 and meets quarterly to continue their efforts. The focus of the alliance is four fold: 1) have someone on staff become a Certified Floodplain Manager, 2) join the CRS, 3) adopt and enforce higher regulator standards, and 4) join and interact with other agencies such as IAFSM or ASFPM to promote floodplain management and resiliency education. It is the expectation of the Alliance to have a Certified Floodplain Manager (CFM) working with all 18 communities within 2 years. *Baseline:* Currently there are 5 CFM's in the alliance.

**Tri County / City of Washington:** The City of Washington has engaged with a local civil engineering firm to analyze the flow and depth of water in the tributary crossing through the Washington Estates subdivision. This has been done after the November 2013 tornado. The project would be expected to serve as a long-term solution to any future flooding events that may occur in the targeted area. It would provide for a more modern stormsewer system that can

better handle large storm events and will provide for enhanced conveyance of water in the tributary. The project would reduce flood damages to approximately 200 households and reduce local inundation to 75 acres of land. *Baseline:* Currently 0 properties and 0 acres of land have benefited from this project.

DRAFT