

NDRC CROSSWALK CHECKLIST

STATE OF OKLAHOMA

Crosswalk\_Checklist\_Oklahoma.pdf

**CDBG-NDRC CROSSWALK CHECKLIST (TABLE OF CONTENTS)**

**Applicant Name: STATE OF OKLAHOMA**

**Primary Responsible Agency: OKLAHOMA DEPARTMENT OF COMMERCE**

**Competition Phase: NDRC PHASE I**

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EXHIBIT A EXECUTIVE SUMMARY

STATE OF OKLAHOMA

Exhib\_A\_ExecSumm\_Oklahoma.pdf

## **Exhibit A – Executive Summary**

The State of Oklahoma, acting through the Oklahoma Department of Commerce / Community Development (ODOC/CD), will use the Community Development Block Grant National Disaster Resilience Competition (CDBG-NDRC) (NOFA, FR-5800-N-29) funding to benefit vulnerable populations, small businesses, and other eligible recipients to assist in the State’s disaster recovery and resiliency efforts for which the funding can be used under applicable federal regulations.

The State of Oklahoma and its primary partner, The City of Oklahoma City, proposes a science based strategy that is supported by extensive community outreach. The strategy is comprised of a pilot program of a “One-Water” approach to water supply, distribution, treatment, stormwater management, and flood prevention that during times of storm events, transforms water from a threat into an asset while building long-term water supply security and enhancing economic opportunity and security for the most vulnerable and disaster impacted populations.

Storm related damages such as flash flooding can be geographically unpredictable. Resiliency must address a wide geographic area and simply can’t be restricted to areas where disasters have occurred in the past. Building upon this, the pilot program approach will seek to provide the following ‘Best Practices’: scalability, innovation, and public awareness / education which can provide benefits to smaller Oklahoma communities statewide.

This CDBG-NDRC Phase I application outlines the methodology and priorities that the State has used to allocate the competition funding among the eligible activities. Broad categories for the CDBG-NDRC Program eligible activities include: Infrastructure, Housing, Public Facilities, Economic Revitalization, and Planning.



EXHIBIT B THRESHOLD

STATE OF OKLAHOMA

Exhib\_B\_Threshold\_Oklahoma.pdf

## **I. Most Impacted and Distressed**

The City of Oklahoma City, FIPS Place Code 40/55000 (state/place), sustained severe damage from tornadoes and flooding from storm events that occurred on May 19, 20 and May 31, 2013, together included in FEMA Disaster Declaration DR-4117. The May 19th storm generated tornado damage in southeastern and eastern Oklahoma City in the vicinities of Little Axe and Shawnee. The May 20th storm left a path of tornado destruction 17.5 miles long and up to 1.3 miles wide through south central Oklahoma City and the City of Moore. The May 31st, storm produced less tornado related property damage, but extensively more damage associated with flash flooding. The May 20th and May 31st storms resulted in loss of life as well as property damage. The overall damage assessment is represented on (**Att2\_Damage\_OklaExhibB.pdf**) and the MID-URN Checklist is located at (**Att52\_MIDURN\_Chk\_OklaExhibB.pdf**).

Oklahoma City is very large geographically. The City is comprised of over 620 square miles in land area that extends into 4 counties including parts of Canadian, Cleveland, Oklahoma and Pottawatomie Counties. Cleveland County is specifically designated by HUD as being “Most Impacted and Distressed.” The Oklahoma City land area within Cleveland Count totals 126.40 square miles or 20.4% of the City’s total land area.

### **Tornado Damaged Housing Assessment**

Destruction from the May 20th event was not fully assessed by the Federal Emergency Management Agency (FEMA). Therefore, the City of Oklahoma City and U.S. Department of Housing and Urban Development (HUD) assisted with completing the initial housing damage assessment. (**Att1\_Damage\_OklaExhibB.pdf**) depicts total housing losses in Oklahoma City based on FEMA, HUD and City Office of Emergency Management analyses and utilizing the FEMA scoring protocol. The table shows 1,038 houses were damaged by the May 20 tornado.

## **FEMA Housing and Program Assistance**

Based on FEMA data, FEMA's Individual and Households Program paid Oklahoma City residents over \$4,600,000 for uninsured losses. Of that value, Housing Assistance claims total in excess of \$3,000,000 and Other Needs exceeds \$1,600,000. The map (**Att3\_FEMAExpend\_OklaExhibB.pdf**), represents FEMA expenditures by zip code for Oklahoma City and the data is detailed in (**Att4\_FEMAExpZip\_OklaExhibB.pdf**).

## **Private Insurance**

Private Insurance paid claims for housing were far in excess of the FEMA funded damages. The Oklahoma State Insurance Department (OID) has segregated damage claims by incident. The incidents are viewed by reporting insurers as two separate catastrophic events – one identified as the May 19th and 20th event, and the other as the May 30th and 31st event. The OID does not break out reporting based on city, county, or other jurisdictional boundaries.

The OID insurance claim data documents \$1.15 billion structural damage claims were reimbursed in over 95,800 claims. Based on FEMA applications received for individual assistance through July 2013, 67% of those in Oklahoma County, and 36% of those filing in Cleveland County were uninsured. Assuming an average 50% uninsured, and without consideration of those who were underinsured, suggests total storm damages easily approached \$2 billion.

## **Flood Damage**

The May 31, 2013 storm event was much less concentrated in its path of destruction. The storm created tornado and wind damage to buildings, trees and public facilities as well as flash flood damage distributed more broadly throughout the community. The (**Att5\_Rainfall\_OklaExhibB.pdf**), illustration demonstrates the short duration of extremely

heavy rainfall (6.6 inches in a 5-hour period) that caused a flooding event estimated to be at the 500-year level.

The Office of Emergency Management (OEM) for the State of Oklahoma provided data on flood damages for FEMA disaster declaration DR-4117. The data provided by OEM documents 1,011 flood claims in Oklahoma City with verified flood loss. Of the 1,011 claims, 242 had flood related damages, but FEMA did not provide a value on losses. Of the remaining 769 claims, FEMA documents verified losses of \$2,036,826 as a result of flooding in Oklahoma City during the May 31st event. The data also reflects flood damages to 3 multi-family developments and numerous smaller developments comprised of 2-4 housing units included in the loss total. The distribution of flood insurance claims are represented in **(Att6\_FEMAFlood\_OklaExhibB.pdf)**.

### **Oklahoma City Municipal Facilities**

The storm damage assessments previously discussed do not include costs incurred by the City of Oklahoma City for damages to infrastructure including roads, curbs, sidewalks, streetlights and street signals, and signage. They also do not include damages to city buildings and vehicles, or for related personnel, equipment and response activities.

The City has submitted eligible claims totaling in excess of \$11,000,000 for FEMA Public Assistance reimbursement with an additional \$1,125,500 being determined by FEMA to be ineligible. The reimbursable expenses include equipment; areas of emergency channel erosion, sink hole, and culvert repairs; debris removal; traffic signals, and other public works projects.

In addition, the City has incurred an estimated \$24,000,000 in expenses not eligible for FEMA reimbursement, including over \$1,000,000 in damage to police, fire, and general fleet vehicles (city is self-insured); \$2,000,000 in directly related personnel and OT costs; \$1,500,000

insurance deductible for damages to buildings; and about \$14,000,000 in other road, streets, and infrastructure.

The City has received \$2,700,000 CDBG-DR funding from the Oklahoma Department of Commerce to repair approximately 10 linear miles of damages to the streets and sidewalks in affected neighborhoods and streets damaged by heavy equipment and trucks engaged in debris collection and hauling. The number of lane miles affected by the disaster recovery exceeds the available funding. (**Att7\_HaulRoute\_OklaExhibB.pdf**), and (**Att8\_NeighSt\_OklaExhibB.pdf**), show locations where street infrastructure was damaged by the severe storms.

### **Drainage Infrastructure**

The City has numerous areas with Repetitive Loss structures (RLS) were damaged from flooding due to outdated, undersized or failing infrastructure. Remediation of issues related to RLS properties is a priority identified in the City's Hazard Mitigation Plan. During the May flash-flooding events, several of these areas were again impacted with resulting structure damage. (**Att9\_DrainProb\_OklaExhibB.pdf**) shows locations of drainage problems with FEMA flooding claims. The locations are listed in (**Att10\_DrainTab\_OklaExhibB.pdf**).

### **Water Infrastructure**

The Draper Water Treatment Plant lost power during the storm event for over 24 hours affecting about 50,000 utility customers. Residents were asked to avoid water use, some businesses had to close, medical facilities were at-risk, and water pressure was low to non-existent for the Health Sciences Campuses, downtown and the State Capitol. In addition, the critical water distribution lines were damaged when water pressure was restored after the failure. The City will be installing a backup power system with permanent on-site power generation with

CDBG-DR funding totaling approximately \$24 million. Additional critical water infrastructure is needed at the Draper Water Treatment Plant to improve resiliency that includes replacement of the existing suction flume and clearwells. The Draper Water Treatment Plant and its summer service is displayed on (**Att11\_Draper\_OklaExhibB.pdf**). Oklahoma City Field Office of HUD advised that the low/mod public benefit area be calculated based on the summer maximum water usage for Oklahoma City residents. The summer services area is 51.01% low/mod income.

### **Disadvantaged Populations**

The next series of maps demonstrate that disadvantaged and special needs populations were among the most affected by the severe storms associated with DR-4117. (**Att12\_MinPop\_OklaExhibB.pdf**), displays minority populations and (**Att13\_HispPop\_OklaExhibB.pdf**) displays Hispanic populations by Census Tract from the 2009-13 American Community Survey (ACS). The maps show that flooding was most concentrated in areas of minority populations and in particular, persons of Hispanic Origin.

(**Att14\_DisPop\_OklaExhibB.pdf**) and (**Att15\_PovPop\_OklaExhibB.pdf**) shows persons with disabilities and persons below poverty are concentrated in the core areas of the city that were most affected by flooding. The data from the 2009-13 ACS also show that areas damaged by the May 20, 2013 tornado primarily affected areas that were 10% or less persons below poverty, in areas that have incomes 120% of area median and above as shown on (**Att16\_Income\_OklaExhibB.pdf**). However, areas impacted by the May 31, 2013 storm event are areas of high poverty rates ranging from 20% to 50% person below poverty.

## **II. Unmet Recovery Needs Threshold Criteria**

The combined severe weather events caused significant damages to housing, water and storm water infrastructure as well as caused environmental degradation and loss of economic activity in Oklahoma City. Damages to stormwater drainages systems and environmental degradation are of great concern. To better manage the less frequent, but more intense storm events predicted by climate modeling, Oklahoma City needs to undertake a citywide drainage master plan to help set priorities for making needed improvements to the City's stormwater drainage system. Parts of the costs associated with this effort are being addressed with \$990,000 CDBG-DR funding targeted for the Downtown and Deep Fork drainage basins. Additional funding is needed to complete the drainage master planning effort totaling approximately \$9,359,000.

The City is in the process of adopting a new Comprehensive Plan (PlanOKC) that was funded in part by a HUD Community Challenge Grant. PlanOKC was developed using principles of sustainability and resilience. The City must review and update its current development and building codes to help implement PlanOKC goals and objectives. By adopting development and building codes that address issues of sustainability and disaster resilience, the City will be better equipped to recover more rapidly from future weather related disasters. The costs associated with updating development and building codes is estimated at \$750,000.

#### **A. Housing**

The May 2013 storm events contributed to reduced availability of affordable housing in Oklahoma City. To address this impact, Oklahoma City received an allocation from the Oklahoma Department of Commerce of CDBG-DR funding to assist with disaster recovery housing rehabilitation and for providing safe rooms and storm shelters to houses affected by the disaster. The City has been accepting online and paper applications for both housing

rehabilitation assistance and requests for storm shelters since October 1, 2014. Please note that storm shelters can only be provided for those housing units that were damaged by the severe storms associated with DR-4117, and the property owner must occupy the housing unit as his/her principal residence. To date, over 750 requests for applications have been received and distributed. The City's Housing Rehabilitation staff are currently interviewing approximately 8 households per day to determine CDBG-DR eligibility and documenting duplication of benefit from the completed and returned applications. The approval of completed applications began in January 2015. To date, 14 storm shelters are being installed; 21 storm shelter applications have been approved for bidding, of which, 7 applications have received acceptable bids and are pending award to a contractor, and 14 projects are out for bid. With regard to disaster recovery housing rehabilitation, 1 project has an acceptable bid with rehabilitation contract pending, 2 projects are out for bid and 23 applications are under review and inspection.

The total funding allocated for Disaster Recovery Housing Rehabilitation totals \$1,663,701. The City's program limits total costs to \$28,750 per rehabilitation yielding 58 total possible rehabilitations. The total funding allocated to storm shelters is \$1,020,000. The estimated total average cost for purchase and installation of a shelter is \$4,374. This would enable the City to install 234 shelters. Based on the level of interest demonstrated by the number of requests for applications and projected expenditures, the City will exhaust all funding allocated to these activities. In terms of percentage, the amount of available funding would serve approximately 31.2% of those households requesting rehabilitation and storm shelter assistance.

The City conducted a windshield survey of damages specific to the severe weather events occurring May 19 and 20, 2013 that are commonly referred to as the Moore Tornado and Little Axe Tornado. In those areas, most housing has been rehabilitated. The windshield survey



identified 131 cleared lots where single family homes once existed but remained vacant at the time of survey 6 houses still in need of rehabilitation. The results of the survey are depicted geographically in Maps 13 through 17 in ([Att17\\_HSGSurvey\\_OklaExhibB.pdf](#)). Map 13 provides an overview location map and identifies four map insets (Maps 14-17) that show more detail of survey results.

The requirement for a windshield survey yields very misleading results, particularly when documenting flood damages. The May 31, 2013 severe storm, although having a very broad damage path associated with tornadoes, produced significantly more damages associated with flash flooding. It is not possible to adequately document flood related damage from a windshield survey. To better represent unrepaired flood damages, the City produced a mail survey which was distributed to all addresses that applied for FEMA Individual Assistance or addresses where an application was made for a determination of FEMA Verified Flood Loss (1,495 addresses). The results of the mail survey are summarized in ([Att18\\_HSGSumm\\_OklaExhibB.pdf](#)).

Based on the results of the survey, 83.3% of respondents who received FEMA Individual Assistance or had verified flood loss under the National Flood Insurance Program did not receive sufficient assistance to address their recovery need. An extrapolation of the total survey pool reduced by the 126 (postal returns) from now vacant lots (1,369) with the number of respondents with unrepaired damages, yields 1,141 potential houses with unrepaired housing rehabilitation needs. Applying the average unfunded need of \$7,601 per residences totals an unmet funding need of \$8,670,927. A detailed list of addresses from the mail and windshield survey can be found in ([Att19\\_HSGsurT\\_OklaExhibB.pdf](#)).

### **Effects of Storm on Housing Availability and Affordability**

A second shortcoming of using a windshield survey is that it does not capture data needed to document the impacts of the disaster on housing affordability and impacts on special needs populations. The May 19<sup>th</sup>, 20<sup>th</sup>, and 31<sup>st</sup> storm events negatively impacted housing availability and affordability in Oklahoma City. The increase in demand and price can be attributed to those families displaced by the storm events. The unexpected and sudden increase in the need for housing exacerbated pre-existing pressure on the Oklahoma City real estate market stemming from several years of accelerated economic expansion. Evidence of these factors and their influence can be found in both Rental and Owner Occupied housing statistics within Oklahoma City, being most evident in lower income housing.

#### Owner Occupied Housing Affordability

Affordability of Owner Occupied housing in Oklahoma City and the surrounding Metropolitan Statistical Area is measured and compared using data provided by the ACS (*ACS Survey 2010 thru 2013*). Statistical data comparing affordability of housing across various home prices for 2010 thru 2013 has been gathered and summarized in (**Att20\_Afford\_OklaExhibB.pdf**).

The ACS data shows the percentage difference between Oklahoma City and the Oklahoma City MSA for those home owners whose house payment comprises 30% or greater of the total household income across four ranges of home values. It is clear that more Oklahoma City homeowners in the lower price ranges devote a larger portion of their income to house payment than those in the Oklahoma City MSA. Currently, the FHA debt to income ratio for house payments (PITI) is 31% of Gross Monthly Income (GMI) for Federal home loan qualification. Using this measure, housing for Oklahoma City residents in these home value ranges is consistently less affordable than the surrounding area. In terms of the bigger picture, 20.76% of

all Oklahoma City home owners in the \$0 thru \$75,000 price range devote 30% or more of their income to house payments. Any increase in demand, such as resulting from the 2013 storm events, and the corresponding increase in price can quickly render homes in the sub-\$75,000 price range unaffordable to Oklahoma City families seeking to purchase a home.

The median home prices, by year, from 2012 thru 2014 as reported by the Oklahoma City Metropolitan Association of Realtors is depicted in (**Att21\_MedPrice\_OklaExhibB.pdf**). Note the spike in median home price in August of 2013, approximately 90 days after the May storm(s). The relatively high median price suggests an abnormal event increasing pressure on prices through a shortage of supply, increase of demand, or both.

### **Owner Occupied Housing Availability**

As mentioned above, a lack of affordability, reflected in higher prices, can be due to changes in supply and demand. The supply of Owner Occupied units is depicted in (**Att22\_OwnOcc\_OklaExhibB.pdf**) for both the City of Oklahoma City and Oklahoma City MSA from 2010 thru 2013 (*ACS Survey 2010 thru 2013*). In 2013 Oklahoma City experienced a decrease of 1.22% in Owner Occupied residences. Such an uncharacteristic decrease translates to some 1,650 fewer homes as opposed to a much less significant decrease of .05% (158 homes) in the Oklahoma City MSA. The May 2013 storm event contributed to reduced availability of affordable housing in Oklahoma City.

### **Rental Housing Availability**

The rental housing market within Oklahoma City also suffers from affordability and availability issues similar to those experienced by home owners that may be caused by the severe storms associated with DR-4117. (**Att23\_RentVac\_OklaExhibB.pdf**), compiled from ACS data (*ACS Survey 2009-2013*), illustrates the availability of rental housing in Oklahoma City. The map shows the vast majority of Oklahoma City has rental housing vacancy rates of 10% or less,

which is also true for the areas affected by the May 20<sup>th</sup> tornado. Housing costs can be subjected to upward pressure when there is a limited supply of available rental housing units. This increased housing costs makes housing less affordable particularly for lower income households.

#### Rental Housing Affordability

Whereas (Att23\_RentVac\_OklaExhibB.pdf) depicts rental vacancies, the (Att24\_RentBur\_OklaExhibB.pdf) map, based on ACS data (*ACS Survey 2009-2013*), represents the affordability of rentals in Oklahoma City. Within the affected areas, the vast majority of renters commit greater than 35% of their income to housing costs. Like owner occupied occupant households in the same area, any changes to price can severely impact income needed for other basic necessities. Consequently, these renters are at high risk following storm events.

In fact, there is evidence in the market that this higher risk of decreased housing affordability has transitioned into reality regarding multi-family housing. The effects of a limited supply and resulting decrease in affordability can be seen in the asking price of for-sale multifamily properties. The graph depicted in (Att25\_AskingP\_OklaExhibB.pdf), from LoopNet, compares the asking price of rental properties within Oklahoma City, Oklahoma County, Oklahoma City MSA, and the State of Oklahoma. The second half of 2013 clearly shows a significant Asking Price increase of over \$10,000 within Oklahoma City. This increase is not exhibited on the larger state level and begins shortly after the May storm event(s). This data suggests that families left homeless by the storm absorbed the available supply of rental units further tightening the supply and increasing the cost of housing in Oklahoma City.

The impacts of decreased housing affordability can be observed by the level of demands for services by the City's emergency shelter providers that are required to report to the City on their levels of service under the Emergency Solutions Grant. The graph depicted in

(Att26\_Homeless\_OklaExhibB.pdf) shows a steady increase in homeless services beginning in the fourth quarter of 2013 and continuing through 2014.

## **B. Economic Revitalization**

Economic Revitalization threshold requirements were documented by conducting a survey of property owners that reported flood damage, filed FEMA Flood Insurance claims, or filed for FEMA Individual Assistance and through telephone outreach to 20 flood affected business owners. The results of the mail survey and telephone interviews are summarized in (Att27\_EconSurv\_OklaExhibB.pdf). The results show that significant economic losses have been experienced and businesses remain unrepaired approximately 19-months post disaster from 9 respondents. The largest single business is Celestial Acres with an estimated unmet recovery need of over \$1,500,000. Celestial Acres was a horse stud farm and training facility. The facility lost all barns and horse training facilities during the May 20, 2013 tornado. The remaining businesses lost equipment or had unrepaired damages to their business primarily due to flooding during the May 31, 2013 storm.

## **C. Infrastructure**

Disaster impacts on infrastructure is documented through FEMA Public Assistance Worksheets and unmet recovery needs resulting from facilities affected by the disasters not filed with FEMA for Public Assistance, but have documented damage claims for FEMA Individual Assistance, National Flood Insurance Program Claims and flood damage complaints received by Oklahoma City directly. The following table documents flood related damages for 15 drainage facilities that caused structural flooding.

<b>Project Location</b>	<b>Public Assistance</b>	<b>N Flood Insurance</b>	<b>Individual Assistance</b>	<b>OKC Complaint</b>	<b>Total Claims</b>
<b>Oklahoma River Basin</b>					
SW 15th & Pennsylvania		13	21	0	34
SW 25 & S Murray Dr		39	33	1	73
SW 25th & Walker		2	3	0	5
NW 4th Classen to Shartel		0	0	3	3
NW 7th to NW 5th west		0	0	1	1
N Walker: NW 4 <sup>th</sup> to Kerr		2	2	3	7
NW 10th & Dewey		0	0	1	1
Edwards Elementary		9	5	0	14
Melrose Glade		3	0	0	3
<b>Deep Fork Basin</b>					
Belle Isle Bypass Recon.	OKC129CDPW & OKC152CDPW	91	82	3	176
Will Rogers Park		6	5	3	14
NW 36th & Venice		6	5	3	14
NW 36th & Francis		3	4	0	7
DeepFork Trib east of Ind.		0	0	0	0

The total funding needed to correct damages and improve resiliency by project is detailed in the table below. FEMA Public Assistance Worksheets cited in the table are included in (Att28\_WrkSheet\_OklaExhibB.pdf).

<b>Project Location</b>	<b>Estimated Cost</b>	<b>FEMA PA Number</b>	<b>PA Funding</b>	<b>Funding Need</b>
<b>Oklahoma River Basin</b>				
SW 15 <sup>th</sup> & Pennsylvania	\$3,299,360			\$3,299,360
SW 25 <sup>th</sup> & S Murray Dr	\$5,134,795			\$5,134,795
SW 25th & Walker	\$1,917,500			\$1,917,625
NW 4th Classen to Shartel	\$1,922,778			\$1,922,500
NW 7th to NW 5th west	\$2,775,590			\$2,775,590
N Walker: NW 4 <sup>th</sup> to Kerr	\$1,545,033			\$1,545,033
NW 10th & Dewey	\$3,669,524			\$3,669,524
Edwards Elementary	\$5,540,231			\$5,540,231
Melrose Glade	\$684,375			\$684,375
<b>Deep Fork Basin</b>				
Belle Isle Bypass Recon.	\$6,838,486	OKC129CDPW & OKC152CDPW	\$193,184	\$6,838,486
Will Rogers Park	\$6,331,701			\$6,331,701
NW 36th & Venice	\$3,563,946			\$3,563,946
NW 36th & Francis	\$3,399,280	OKC108F	\$128,902	\$3,399,280
Deep Fork Trib east Ind.	\$1,359,497			\$1,359,497
Draper Water Treatment Plant	\$78,315,440	OKC007B	\$104,941	\$54,210,440
			\$427,941	\$102,179,418

**D. Environmental Degradation**

**Lake Thunderbird Basin Multi-stage Multipurpose Environmental Mitigation**

On May 31, 2013, the Thunderbird basin received approximately 3.5 inches of rain causing environmental degradation to the creeks within the Thunderbird basin. Thirty-eight percent of the Lake Thunderbird watershed is located within Oklahoma City limits. Lake Thunderbird is a source of drinking water for the cities of Norman, Midwest City, and Del City and is classified as impaired by the Environmental Protection Agency (EPA) and Oklahoma Department of Environmental Quality (**Att32\_TBird\_OklaExhibB.pdf**). On May 31<sup>st</sup>, 2013 a storm event produced approximately 3.5 inches of rain over the Lake Thunderbird basin. The runoff which resulted from this event caused damage and bank erosion to a number of streams in the basin. The sediment loss contributes to the water quality impairment of Lake Thunderbird and is costly for the City of Norman to remove during the water treatment process.

The City of Oklahoma City monitors several stream sites in Lake Thunderbird watershed basin. Several of these locations exhibit poor water quality and contribute to the basin's impaired EPA status. The water quality issues are mainly due to upstream bank erosion. Three main point sources of bank erosion are identified in attachment (**Att33\_TBirdMap\_OklaExhibB.pdf**). To reduce the bank erosion, improve water quality, and change the EPA water quality status, restoration of 1.5 miles of stream bank and the creation of two publicly maintained water quality facilities are proposed.

The proposed stream bank restoration will address the point source pollution documented by photographs at the monitored sites. By creating a more resilient channel bank, erosion from future storm events will be reduced. In addition, stream bank restoration will help create a habitat conducive for plant life that will absorb pollutants that may not be attached to sediment particles.

The proposed water quality facilities would be designed as a community educational areas and nature preserves. The facilities will provide approximately 500 acre-feet of multipurpose



retention/detention storage and will be located at the most critical locations shown in **(Att33\_TBirdMap\_OklaExhibB.pdf)**. The storage will mitigate both upstream and downstream sources of water quality pollution. Sediment will be prevented from migrating downstream through detention, and erosion will be reduced downstream by slowing water velocities through the channels during storm events. In addition, the proposed facilities will create habitat conducive for plant life that will absorb pollutants that may not be attached to sediment particles.

The attached **(Att33\_TBirdMap\_OklaExhibB.pdf)** shows the most likely locations for implementation of the proposed stream restoration and multipurpose water quality facilities and cost estimates for remediation. The total cost estimate for this basin wide water quality enhancement project is \$26 million.

### **Oklahoma City Target Area**

The target area was established to address the critical drainage problems and Lake Thunderbird Mitigation Areas discussed above. The target area also maximizes the number of FEMA Individual Assistance (IA) claims and National Flood Insurance Program (NFIP) claims in the community. The target area captures 96.3% (1,185/1,230) of the applications for FEMA Individual Assistance and 88.2% (892/1,011) of the National Flood Insurance Program applicants. The target area including IA and NFIP claims are shown on **(Att34\_TargArea\_OklaExhibB.pdf)**. The Census Block Groups that comprise the area are included in the **(Att35\_TargGrps\_OklaExhibB.pdf)**.

EXHIBIT C CAPACITY

STATE OF OKLAHOMA

Exhib\_C\_Capacity\_Oklahoma.pdf

## **Exhibit C – Capacity**

The State of Oklahoma through the Oklahoma Department of Commerce / Community Development (ODOC/CD) as recipient of CDBG based funds is responsible for ensuring that the funds are used in accordance with all applicable program requirements. To date, the State has been allotted \$93.7 million combined through two separate rounds of CDBG Disaster Recovery funding. As part of the CDBG Disaster Recovery financial controls' review for the allocation, the State (ODOC/CD) was granted a 'Certification of Proficient Financial Controls, Processes and Procedures for CDBG Disaster Recovery Funding' dated March 14, 2014. A copy of this memorandum ([Att35\\_DRMemo\\_OklaExhibC.pdf](#)) certifying proficient CDBG Disaster Recovery financial controls is attached.

Previously, ODOC/CD administered the State's Neighborhood Stabilization Program (NSP) that included NSP1 and NSP3 funding. ODOC/CD currently administers the States annually funded CDBG program. ODOC/CD has administered the CDBG program since 1982, funding well over 3,000 projects. Community Development Services staff within ODOC/CD will be directly responsible for the funding and management of the CDBG-NDRC program through the program's life cycle.

The Community Infrastructure team is part of ODOC/CD division and will be directly performing all CDBG-NDRC grant related management activities for the State. Community Infrastructure is responsible for the actual development and management of all CDBG related programs. The team consists of two Program Planners charged with developing and evaluating CDBG applications. The team is also comprised of two regular CDBG Program Managers responsible for managing and monitoring post CDBG grant awards. An additional CDBG Program Manager handles CDBG specific economic development grants and its affiliated

monitoring and reporting requirements. A Director of Programs serves as team leader and reports to the ODOC/CD director. In addition, it is important to mention that all Community Infrastructure personnel have had experience with not only the State's annual CDBG program, but they have also managed both NSP 1 and NSP 3 along with the State's current two rounds of CDBG Disaster Recovery funding. See ODOC/CD chart ([Att36\\_OrgChart\\_OklaExhibC.pdf](#)).

As part of the State's ongoing responsibilities for the administration of U.S. Department of Housing and Urban Development (HUD) federally funded programs, ODOC/CD will conduct comprehensive monitoring reviews for all programs and activities that fall under the CDBG-NDRC award. The State of Oklahoma and its sub-recipients that receive CDBG-NDRC funding just like that of CDBG-DR funds are required to comply with all HUD's rules and regulations concerning program performance and any rules and regulations unique to the Disaster Recovery legislation.

ODOC understands that the use of sub recipients does not relieve the State of compliance responsibilities. ODOC will utilize its current CDBG Program monitoring policies and procedures to ensure compliance with all federal guidelines. The policies and procedures are consistent with those used by HUD to monitor state administered and entitlement programs and are modified as appropriate to monitor specifics of the Disaster Recovery program.

The State's ([Att43\\_StateLtr\\_OklaExhibC.pdf](#)) primary partner will be the City of Oklahoma City ([Att44\\_OKCPrtLtr\\_OklaExhibC.pdf](#)) for which the pilot program will be initiated. The Planning Department of the City of Oklahoma City will be specifically managing the CDBG-NDRC grant at the City level. It should be noted that plans are in place to hire additional personnel as required to carry out the funded projects. Project management will be provided by the City's Planning and Public Works Departments. The Oklahoma City Public

Works Department provides management for all streets and drainage systems within the city. The Public Works Department has an engineering staff capable of providing design and construction administration services to all types of streets and drainage facilities.

The Planning Department's Housing and Community Development Division is currently managing approximately \$33,500,000 Community Development Block Grant – Disaster Recovery funding provided by the Oklahoma Department of Commerce under the Disaster Relief Appropriations Act (Pub. L. 113-2) and has managed all HUD formula based grant programs since inception that include the Community Development Block Grant, HOME Investment Partnerships Program, Emergency Solutions Grant and Housing Opportunities for Persons with AIDS as well as a wide range of competitive grants provided through HUD, EDA, EPA and DOI.

The City of Oklahoma City routinely works with Federal, State and local partners as well as numerous nonprofit and for profit housing providers, social service providers and community development organizations under formal agreements. The City also provides assistance to local trusts and authorities to implement eligible CDBG projects under formal operating agreements.

The City of Oklahoma City has undertaken and successfully completed many large scale projects over the years. Currently, the City is in the process of adopting a new Comprehensive Plan that was developed over the past 3-years; completed numerous large community and economic development activities that have transformed the City over the past 15-year under its Metropolitan Area Projects (MAPS) program and its successors MAPS for Kids and MAPS-3. These MAPS activities include redevelopment of the Civic Center Music Hall, construction of the downtown library, construction of three dams on the North Canadian River, construction of triple "A" baseball stadium, construction of 18,000 seat arena, construction or remodeling of

most school buildings, development of downtown central park, construction of a canal in Bricktown, construction of new facilities in the State Fairgrounds and development of a downtown trolley system.

As part of enhancing capacity and public outreach, the State intends to partner with the University of Oklahoma's Resilience Development Institute (OU REDI). The Resilience Development Institute (**Att45\_OUREDILtr\_OklaExhibC.pdf**) is designed to impart knowledge and build expertise in resilience and recovery in order to build more resilient neighborhoods, communities, states, and nations worldwide. OU REDI is the only professional development certification program of its type. The Institute offers three progressive levels of expertise:

1. Executive: Designed for those interested in learning the basics of resilience and recovery.
2. Practitioner: Designed for those for which resilience and recovery is a part of their profession.
3. Professional: Designed for professionals desiring graduate-level knowledge and certification in resilience and disaster recovery.

Curriculum will include presentations, interactive exercises, and detailed case studies that will address all aspects of resilience, from response and resilience planning, through a major disaster, and navigating comprehensive recovery both short and long-term. The Institute will focus on the role of community and organizational leadership in disaster recovery, and the role of those responsible, whether at local, state, or federal public sector, non-profit/non-governmental sector, or private sector level. OU REDI will address resilience, short-term stabilization/initial recovery, and long term economic, social, psychological, and physical recovery.

The Mental Health Association of Oklahoma (MHAOK) (**Att48\_MHAOKLtr\_OklaExhibC.pdf**) will also partner with the State in support of CDBG-NDRC. In 1955, the Association became one of the first mental health associations in the nation.

The Association offers a suicide prevention hotline, a teen crisis hotline, and advocacy for the development of a community crisis unit, where patients could be evaluated rather than being held in jail. MHAOK also advocates for all Oklahomans impacted by mental illness and homelessness. MHAOK partners with many local and national non-profits to help eradicate the stigma associated with mental illness and other disabilities, to identify gaps in services, and to promote access to effective treatment.

MHAOK is driven to envision new ways to promote mental health and support those living with mental illnesses throughout Oklahoma communities statewide. MHAOK has a multi-faceted system which focuses on housing, education, advocacy, support, recovery, youth or service.

The Oklahoma City Housing Authority (OHCA), established in 1965, (**Att49\_HAuthLtr\_OklaExhibC.pdf**) will also partner with the State in support of CDBG-NDRC. The Oklahoma City Housing Authority's mission is to provide affordable, decent, safe, and sanitary housing or housing assistance, with quality environments and opportunities to low income people of Oklahoma City.

The OCHA currently owns Public Housing consisting of 3,150 units. In addition, the OCHA administers approximately 4,219 units of Section 8 Housing in the Oklahoma City area. This enables OCHA to provide housing and rental assistance to low-income people and their families with the availability of 7,369 dwelling units. In addition to OCHA's two housing programs, the OCHA offers or contracts many assistance and training programs to help public housing residents in becoming self-reliant, for the Oklahoma City Housing Authority is a "Hand Up, not a Hand Out".

In August of 1965, the Board of Commissioners of the Housing Authority resolved to cooperate fully with the Oklahoma City Urban Renewal Authority to house persons displaced by Urban Renewal. On November 8, 1965, a program reservation for 1,200 units of low-income housing was approved by the City Council for development by the Oklahoma City Housing Authority.

The first dwellings to be operated by the Oklahoma City Housing Authority came as a result of the transfer of Will Rogers Courts from the United States Government to the Housing Authority on April 1, 1966.

The first new developments to be completed by the Housing Authority were Shartel Towers, consisting of 201 apartments and Fred Factory Gardens, consisting of 74 apartments. Both developments were completed in 1969.

Finally, City Care (**Att46\_CCareLtr\_OklaExhibC.pdf**) will also partner with the State in support of CDBG-NDRC. City Care is a 501(c)(3) non-profit organization serving the Oklahoma City metro area. Over the past 15 years, City Care has successfully developed and operated more than 100 units of affordable rental housing under the HOME Program, HUD Continuum of Care, Supportive Housing Program, and Low Income Housing Tax Credits. Additional, planning is currently under way to participate in acquisition and rehabilitation activities under the CDBG program.

City Care will participate with The City of Oklahoma City and the Oklahoma Department of Commerce as a project sponsor to provide the resources necessary to develop and operate affordable rental housing and carryout related activities proposed for funding under the CDBG-NDRC.



EXHIBIT D NEED / EXTENT OF PROBLEM

STATE OF OKLAHOMA

Exhib\_D\_Need\_Oklahoma.pdf

## **Exhibit D – Need / Extent of the Problem**

The Great Plains in which the State of Oklahoma is geographically located is a diverse region where climate and water are closely intertwined. Water, whether it is an overage (floods) or underage (drought) has historically been a recurring problem. The region experiences multiple climate and weather hazards, including floods, droughts, severe storms, tornadoes, hurricanes, and winter storms. With the exception of hurricanes, Oklahoma has experienced all of these types of severe weather from 2011 to 2013 which was targeted by State's most recent round of HUD CDBG-Disaster Recovery funding as specified in the June 3, 2014 Federal Register Notice (Vol. 79, No. 106).

Oklahoma ranks 20th of the fifty states in size and has an overall land area of 69,903 square miles. The terrain is mostly plains, varying from nearly flat in the west to rolling in the central and near east. Oklahoma lies entirely within the drainage basin of the Mississippi River. The two main rivers in the state are the Arkansas, which drains the northern two-thirds of the state, and the Red, which drains the southern third and serves as the state's southern border.

Although precipitation is quite variable on a year-to-year basis, average annual precipitation ranges from about 17 inches in the far western panhandle to about 56 inches in the far southeast. Excessive rainfall occurs at times. Amounts of ten inches or more in 24 hours, while rare, have been recorded. The greatest official rainfall in a 24-hour period is 15.68 inches at Enid on October 11, 1973.

Floods of major rivers and tributaries may occur during any season, but they occur with greatest frequency during those spring and autumn months associated with greatest rainfall. Flash flooding of creeks and minor streams remains a serious threat, especially in urban and suburban areas, where development and removal of vegetation have increased runoff.

Projections provided by the US Global Change Research Program's *Climate Change Impacts in the United States* suggests that the Great Plains could experience more frequent and more intense droughts, severe rainfall events, and heat waves. Additionally, the US Global Change Research Program data indicates that there is a trend toward more dry days and higher temperatures across the south which will increase evaporation, decrease water supplies, reduce electricity transmission capacity, and increase cooling demands. These changes will add stress to limited water resources and affect management choices related to irrigation, municipal use, and energy generation. These changing extremes in precipitation are projected across all seasons, including higher likelihoods of both increasing heavy rain and snow events along with more intense droughts. The report indicates that communities and individuals can reduce vulnerabilities through the use of new technologies, local policies, and conservation of resources. Obviously, since we still cannot control the weather, adaptation (coping with change) is one the keys to dealing with these forecasted climatic events.

### **Statewide Risk Based Analysis**

As specified in the June 3, 2014 Federal Register Notice Vol. 79, No. 106, Page 31967, as part of the Disaster Recovery Action Plan, the State was required to implement a comprehensive risk based analysis that it will employ to select, prioritize, implement, and maintain infrastructure activities in its Disaster Recovery program. Similarly, this analysis was used for the CDBG-NDRC in helping to target Disaster Recovery needs and objectives. The following analysis uses elements of informational resources taken from Oklahoma Climatological data, Oklahoma Geological data, and the *State Standard Hazard Mitigation Plan* (Update-Feb. 10, 2014) as developed by the Oklahoma Emergency Management.

The Oklahoma [State Standard Hazard Mitigation Plan](#) provides policy guidance for hazard mitigation in the State of Oklahoma. It identifies hazard mitigation goals, objectives, actions and initiatives for state government that will reduce injury and damage from natural hazards. The Plan specifically identifies six categories of possible mitigation priorities and strategies. These priorities and strategies are as follows:

1. Public Education & Awareness – Outreach projects and technical assistance
2. Preventive Measures – Zoning, building codes, storm water management
3. Natural Resource Protection – Wetlands protection, forest/vegetation management
4. Property Protection – Acquisition, retrofitting, relocation, elevation
5. Emergency Services – Warning, sandbagging, evacuation
6. Structural Projects – Dams, reservoirs, retaining walls, safe rooms

The Oklahoma State Standard Hazard Mitigation Plan lists natural hazards that could potentially affect the State of Oklahoma through the Critical Priority Risk Index (CPRI). Each identified hazard was weighted according to the following criteria of probability, magnitude/severity, warning time and duration. The CPRI categories are needed based upon data provided by Oklahoma Climatological, Oklahoma Geological, and Oklahoma Emergency Management. The CPRI factors the elements of risk—Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration (D) -- to create an index that allows for the prioritization of mitigation activities based on the level of risk. Each hazard is evaluated based on potential or probability using the elements of the index, and a weighting factor to determine the impact, in the following manner:

### Weighing Factors

.45	.30	.15	.10
Probability of Occurrence	Magnitude/Severity Expected of Hazard	Warning Time Possible to Event	Duration Of Event
4 Highly Likely	4 Catastrophic	4 < than 6 hours	4 > 1 week
3 Likely	3 Critical	3 6 – 12 hours	3 ≤ 1 week
2 Possible	2 Limited	2 12 – 24 hours	2 ≤ 24 hours
1 Unlikely	1 Negligible	1 24 + hours	1 ≤ 6 hours

Probability of Occurrence	Definition
4 - Highly Likely	Event is probable within the calendar year. Event has a 1 in 1 year chance of occurring.
3 - Likely	Event is probable within the next three years. Event has up to 1 in 3 year's chance of occurring.
2 - Possible	Event is probable within the next 5 years. Event has up to 1 in 5 year's chance of occurring.
1 - Unlikely	Event is possible within the next 10 years. Event has up to 1 to 10 years chance of occurring.

Magnitude / Severity	Characteristics
Catastrophic	<ul style="list-style-type: none"> <li>&lt; Multiple deaths.</li> <li>&lt; Complete shutdown of facilities for 30 or more days.</li> <li>&lt; More than 50% of property is severely damaged.</li> </ul>
Critical	<ul style="list-style-type: none"> <li>&lt; Injuries and/or illnesses result in permanent disability.</li> </ul>

	<ul style="list-style-type: none"> <li>&lt; Complete shutdown of critical facilities: two weeks.</li> <li>&lt; More than 25% of property is severely damaged.</li> </ul>
Limited	<ul style="list-style-type: none"> <li>&lt; Injuries and/or illnesses: No permanent disability.</li> <li>&lt; Complete shutdown of critical facilities: &lt;one week.</li> <li>&lt; More than 10% of property is severely damaged.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>&lt; Injuries and/or illnesses are treatable with first aid.</li> <li>&lt; Minor quality of life lost.</li> <li>&lt; Shutdown of critical facilities/services 24 hrs. or less.</li> <li>&lt; Less than 10% of property is severely damaged.</li> </ul>

The Calculated Priority Risk Index (CPRI) rated and ranked fifteen different types of disasters that pose the most significant risk to Oklahoma. The disaster types are shown below in ranked order: (1) Flooding (CPRI = 3.75), (2) Tornado (CPRI = 3.7), (3) Winter Storms (CPRI = 3.15), (4) Drought (CPRI = 3.15), (5) Hail (CPRI = 3.1), (6) High Winds (CPRI = 3.1), (7) Lightning (CPRI = 2.8), (8) Wildfires (CPRI = 2.75), (9) Dam Failure (CPRI = 2.65), (10) Extreme Heat (CPRI = 2.4), (11) Expansive Soils (CPRI = 2.2), (12) Special Events (Example – Toxic Contamination) (CPRI = 2.05), (13) Earthquake (CPRI = 1.9), (14) Subsidence (CPRI = 1.75), (15) Landslide (CPRI = 1.45).

Of the fifteen disaster types that pose the most significant risk to Oklahoma, the top five disasters all involve water related hazards or issues. Tornado events, rated number two on the CPRI, are often accompanied by torrential rains which result in flash flooding.

**Unmet Need and Most Distressed / Impacted**

Due to application space limitations, narratives specifically addressing Unmet Need and Most Distressed / Impacted can be found in **Exhibit B (Exhib\_B\_Threshold\_Oklahoma.pdf)**.

SOUNDNESS OF APPROACH

STATE OF OKLAHOMA

Exhib\_E\_Approach\_Oklahoma.pdf

## **Exhibit E – Soundness of Approach**

The State of Oklahoma intends to take what is to be known formally as a “One-Water” approach to encouraging community resiliency in the State’s proposed CDBG-NDRC program. The “One Water” approach relates to the water supply, distribution, treatment, stormwater management, and flood prevention that in times of storm events, transforms water from a threat into an asset while building long-term water supply security and enhancing economic opportunity and security for the most vulnerable populations. While natural disasters are geographically unpredictable and cannot be controlled, this “One Water” approach identifies water as both an asset and liability that can be adapted to through better resiliency practices. As illustrated in Exhibit D (**Exhib\_D\_Need\_Oklahoma.pdf**), it is clear that water related disasters are among the most significant weather and climate related issues in the State of Oklahoma and should stand as a top priority in the State’s CDBG-NDRC pilot program. The overall significance of the “One Water” approach is that encompasses water and its various disaster related forms such as flooding, ice, hail, and even the lack of such as in the case of drought.

## **Strategy Ideas and Concepts**

The State of Oklahoma along with the City of Oklahoma City has proposed a pilot program engaging multiple innovative resiliency strategies in order to reduce the likelihood of storms resulting in flash flooding and harm while securing a sustainable and resilient water supply and improving local housing and economic opportunity. Oklahoma City was chosen for the State’s pilot program not only because it met CDBG-NDRC thresholds but because of its water related resilience groundwork that has already been accomplished ultimately making it perfect for this type of program. The City has the capacity to build upon and expand on water resilience at level unequalled throughout the State.



## **Physical Strategies**

As stated previously, storm related damages such as flash flooding can be geographically unpredictable. Resiliency must address a wide geographic area and simply can't be restricted to areas where disasters have occurred in the past. Building upon this, the pilot program approach will seek to provide the following 'Best Practices'.

1. Scalability / Adaptability: Use capacity of both the City & State to create resources that can be used by smaller communities with less capacity. Infrastructure techniques at different scales will be adaptable to different conditions and smaller communities. This will make individual projects less expensive and require less planning resources in terms of time and money. Communities could start addressing problems sooner rather than later.

2. Innovation: Implement multiple green and grey stormwater management strategies that utilize innovative but implementable and adaptable best management practices to divert / capture and infiltrate or store water in times of heavy water related events: (1) to store it for reuse or (2) infiltration (recharge). This can reduce water consumption and enhance water supplies, reducing long term water needs from other sources or replenishing those resources.

3. Education & Public Awareness (skills development + behavior change): Better public awareness can help create behavior change to build resilience from the ground up and provide a more defined understanding of the associated risks and threats. The creation of innovative design guidelines for these new infrastructure and building techniques can be adopted by public and private entities. Vocation and other training can build local skills to implement new technologies and innovative best practices thus promoting skills' training for better job opportunities, new industries, etc. This education will be available to existing college institutions such as the OU Resilience Institute as illustrated in Exhibit C (**Exhib\_C\_Capacity\_Oklahoma.pdf**).

## **Stakeholder Consultation**

The State has adopted a formal Citizen Participation and Consultation Plan as required by HUD in the State's Consolidated Plan (CDBG, ESG, HOME, HOPWA) which served as a reference for the CDBG-NDRC outreach.

It is worth mentioning that from the State perspective, actual citizen participation outreach involving statewide CDBG related disaster recovery efforts date back to early 2014. To date, the State has been allotted \$93.7 million combined through two separate rounds of CDBG Disaster Recovery funding. The State conducted Disaster Recovery Needs Assessment Surveys for each round along with conducting formal CDBG-DR Public Input Sessions and Public Hearings. Although these outreach efforts predated CDBG-NDRC, the same eligible disasters and many of the related unmet needs still remain relevant under CDBG-NDRC. This earlier outreach helped to serve as a general starting point in identifying overall need but it did not replace CDBG-NDRC specific outreach efforts. Formalized CDBG-NDRC feedback still shows that many of these earlier unmet needs still remain.

Various State agencies and local government informational meetings were held at ODOC by direct request between the months of November 2014 and March 2015 to discuss various aspects of the CDBG-NDRC. Notification of the CDBG-NDRC program was posted on the agency's website, and placed in the Community Developer newsletter. An agency master email listing (3,000 +) was also utilized to reach various State Agencies, Units of General Local Governments (UGLG's), Regional Councils of Government, elected official, private businesses, nonprofits, and general public.

A CDBG-NDRC Public Hearing was held on February 19, 2015 at the Moore/Norman Technology Center in Norman, Oklahoma. Notification of the CDBG-NDRC Public Hearing

was posted on the agency's website, and the meeting information was placed in the Community Developer newsletter inviting all interested individuals to participate. An agency master email listing (3,000 +) was also utilized to reach various State Agencies, Units of General Local Governments (UGLG's), Regional Councils of Government, elected officials, private businesses, nonprofits, and general public.

The formal public comment period lasted for 15 days during which no comments were received. A spreadsheet listing the States Citizen Participation outreach is attached at **(Att37\_CitConsul\_OklaExhibE.pdf)**.

### **Vulnerable Populations**

The next series of maps and as illustrated in Exhibit B **(Exhib\_B\_Threshold\_Oklahoma.pdf)** demonstrate that disadvantaged and special needs populations were among the most affected by the severe storms associated with DR-4117. **(Att12\_MinPop\_OklaExhibB.pdf)**, displays minority populations and **(Att13\_HispPop\_OklaExhibB.pdf)** displays Hispanic populations by Census Tract from the 2009-13 American Community Survey (ACS). The maps show that flooding was most concentrated in areas of minority populations and in particular, persons of Hispanic Origin.

**(Att14\_DisPop\_OklaExhibB.pdf)** and **(Att15\_PovPop\_OklaExhibB.pdf)** show persons with disabilities and persons below poverty are concentrated in the core areas of the city that were most affected by flooding. The data from the 2009-13 ACS also show that areas damaged by the May 20, 2013 tornado primarily affected areas that were 10% or less persons below poverty, in areas that have incomes 120% of area median and above as shown on **(Att16\_Income\_OklaExhibB.pdf)**.

EXHIBIT F LEVERAGE AND OUTCOMES

STATE OF OKLAHOMA

Exhib\_F\_LeverOut\_Oklahoma.pdf

## **Exhibit F – Leverage & Outcome**

### **Leverage**

The State of Oklahoma sees several leverage opportunities resulting from the proposed CDBG-NDRC project. Leverage opportunities and strategies could be applied in the following areas which will perpetuate beyond the two-year CDBG-NDRC grant lifespan. For instance, resiliency solutions could be applied toward potential future State DR grant programs;

The 25% match obligation for the total \$11,227,143 pending and completed disaster recovery projects eligible for FEMA Public Assistance is shared by the State of Oklahoma and The City of Oklahoma City. The State Office of Emergency Management covers approximately 12.5% and the City is responsible for the remaining 12.5% or \$1,403,393 per agency. The FEMA Public Assistance worksheets from most City Departments that include Police, Fire, Airports, Animal Welfare, Utilities, Public Works and Transit. The list of activities that are directly associated with drainage and water improvements that may be proposed for funding under the Round II submission are detailed in attached (**Att38\_Leverage\_OklaExhibF.pdf**). The table documents direct local funding of \$2,353,379, with the State OEM providing an additional \$53,378 for the listed projects.

Local capital improvement funding and General Obligation Bond (GO Bond) funds, if approved through bond issuances will be used to address the critical drainage needs that may be included in the Round II submission as well as may be identified through drainage master planning efforts.

Current GO Bond funded street and drainage projects that are pending and considered disaster recovery leverage includes (\$2,575,000) for street resurfacing in the area bounded by SW 134 St to SW 149<sup>th</sup> St from S Santa Fe Ave to S Western Ave (Contains all streets in the

Westmoor Neighborhood destroyed by the May 20, 2013 tornado). These resources, coupled with current CDBG-DR assistance provided by the Oklahoma Department of Commerce of \$2,700,000 (Stone Meadows and debris haul routes) will help address most streets damaged by the May 20<sup>th</sup> tornado. The City also utilized its annual CDBG allocation for debris removal during the 2013-14 program year totaling \$202,381.52 and Department of Agriculture National Resource Conservation Service (NRCS) funding of \$87,000 to aid with clearance of storm debris.

### **Outcomes**

Once the pilot CDBG-NDRC program completes in Oklahoma City, serious past disaster related drainage issues will have been rectified using new and innovative resiliency based solutions. The mitigation of risks of flash flooding will increase public safety and lessen economic loss to small businesses. The City of Oklahoma City will have gained greater resilient infrastructure capacity while serving some of its most vulnerable populations.

Second, the resiliency ‘Best Practices’ introduced by this proposed pilot project will be expanded upon through the Oklahoma City CDBG-NDRC pilot project which will provide for even more ‘Best Practices’ on which to build. As previously mentioned in Exhibit C (**Exhib\_C\_Capacity\_Oklahoma.pdf**) and as part of enhancing capacity and public outreach, the State intends to partner with the University of Oklahoma's Resilience Development Institute (OU REDI). The Resilience Development Institute is designed to impart knowledge and build expertise in resilience and recovery in order to build more resilient neighborhoods, communities, states, and nations worldwide. OU REDI is the only professional development certification program of its type. It is with this partnership that the newly discovered ‘Best Practices’ will be

shared through not only throughout the State of Oklahoma but throughout the United States and potentially internationally as well.

### **Measuring Outcomes**

As illustrated in Exhibit E (**Exhib\_E\_Approach\_Oklahoma.pdf**), the State of Oklahoma along with the City of Oklahoma City has proposed a pilot program engaging multiple strategies in order to reduce the likelihood of storms resulting in flash flooding and harm while securing a sustainable and resilient water supply and improving local housing and economic opportunity.

Based on this pilot resiliency project, the City of Oklahoma City will serve as a statewide example of ‘Best Practices’. Upon the project’s completion, the City of Oklahoma City will provide ODOC/CD a ‘Best Practices’ report which will be made available to OU REDI for educational purposes. This report will also be made available to the general public on the ODOC/CD Disaster Resiliency website. This ‘Best Practices’ report will allow smaller communities across Oklahoma with limited capacity make their resiliency efforts scalable without wasting time and monetary resources for redundant resiliency planning efforts.

Under the One Water Approach, the State of Oklahoma and The City of Oklahoma City have developed the following metrics to measure program success.

#### **Water Security:**

Draper Water Treatment Plant will experience no down time due to power failure with the installation of onsite bi-fuel emergency power generation. This will ensure reliable potable water will always be available to community residents, businesses and medical community served by the Draper Water Treatment Plant.

#### **Water Conservation:**

The City of Oklahoma City's water conservation program "Squeeze Every Last Drop" will be enhanced by additional outreach and education programs designed to encourage water conservation through best practices for home and business use, landscaping types, materials and watering guidance, regulatory enforcement during times of water rationing, and youth education.

**Resilient Development Codes:**

The City of Oklahoma City is in the process of adopting a new Comprehensive Plan (PlanOKC) that was developed over the past 3-years. PlanOKC was developed on sustainability principles with funding support from HUD under a Community Challenge Grant. Once PlanOKC is adopted, the City's development and building codes will be revised to incorporate resiliency and sustainability guidance and directives designed to implement PlanOKC goals and objectives.

**Flooding and Drainage:**

The overall goal for Oklahoma City is to reduce loss of life and property as a result of flooding which will require developing a citywide drainage master plan. Once developed, the drainage master plan will provide policy guidance and priorities for securing local and bond funding for systematically addressing deficiencies in the City's storm drainage system to alleviate structural and property flooding.

**Housing:**

The Housing and Community Development Division of the City's Planning Department is charged with increasing the supply and affordability of housing. This becomes an acute issue following major disasters when housing units are lost and households are displaced. If funded, the City will seek development 100 or more affordable housing thru its partners, the Oklahoma



City Housing Authority, Homeless Alliance, Oklahoma Mental Health Association and City Care.

**Economic Revitalization:**

The City will expand existing Community Development Block Grant economic development programs to aid businesses targeted commercial districts, many of which have small businesses and microenterprises that sustained disaster related damages. The City is currently amending its Consolidated Plan to capitalize the revolving loan fund. The goal is to assist approximately 5 businesses per year.

**Environmental Degradation:**

The City will repair 1.5 miles of damaged stream banks and channels affected by the disaster and construct multi-use detention facilities to improve water quality in the Lake Thunderbird. The Lake Thunderbird basin also contains Lake Stanley Draper. Lake Stanley Draper provides municipal water for over 50% of Oklahoma City.

EXHIBIT G LONG TERM COMMITMENT

STATE OF OKLAHOMA

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## **Exhibit G – Long Term Commitment**

The State of Oklahoma has historically suffered from natural disasters and has always proved its resiliency in the face of disaster. The State's long term commitment toward resiliency actually started well before the CDBG-NDRC announcement.

In March 2014, a multi-agency committee was created in the wake of the Moore tornado (May 2013) and its multiple affiliated storm damaged areas. The committee included the Oklahoma Department of Commerce, Oklahoma Office of Emergency Management, Oklahoma Insurance Department, and the Greater Oklahoma City Partnership and sponsored by the US Department of Commerce, Economic Development Administration and the Federal Emergency Management Agency. The committee was formed with the express purpose of guiding the development of a strategic report on resiliency which details meaningful and relevant resiliency efforts among stakeholders and methods of supporting new stakeholder based resilience strategies. In all, Committee membership was formed with fourteen (14) federal, state, county, local, and educational partners.

Together, this collaborative effort yielded what is known as the *Oklahoma Economic Resilience Strategic Report*. This strategic report captures the relevant assets and practices of economic resilience and recovery coordination currently underway in Oklahoma. These practices, integrated into a singular effort, serve as a strong foundation for the state to support additional initiatives that, based on worldwide lessons learned, will build the capacity of local communities and strengthen Oklahoma's economy. The strategic report serves as an initial step in building that capacity by providing a forum for stakeholders to integrate and leverage existing resources to make Oklahoma more economically resilient. The objective of this effort was to

identify and integrate resiliency initiatives, build on international best practices, and create proactive initiatives that deliberately build Oklahoma's capacity for economic resilience.

In considering the spectrum of capacity building efforts already underway in Oklahoma, this strategic report puts forth eleven (11) core resilience factors. These factors are derived from a thorough review of state-level resilience initiatives, the priorities of the Governor, and the guidance of the Steering Committee. These core resilience factors are: Research & Knowledge Building; Planning; Governance; Finance; Infrastructure; Procurement & Local Sourcing; Business Continuity & Risk Management; Workforce Support; Economic Diversification; Business Counseling & Technical Assistance; and Communications.

In terms of long term commitment, the Oklahoma Economic Resilience Strategic Report serves as an initial building block in terms of the State's commitment toward increasing future resiliency capacity. The 'Best Practices' introduced by this strategic report will be expanded upon through the Oklahoma City CDBG-NDRC pilot project which will provide for even more 'Best Practices' on which to build. As previously mentioned in Exhibit C (Capacity) and as part of enhancing capacity and public outreach, the State intends to partner with the University of Oklahoma's Resilience Development Institute (OU REDI). The Resilience Development Institute is designed to impart knowledge and build expertise in resilience and recovery in order to build more resilient neighborhoods, communities, states, and nations worldwide. OU REDI is the only professional resiliency development certification program of its type. It is with this partnership that the newly discovered 'Best Practices' will be shared through not only throughout the State of Oklahoma but throughout the United States and potentially internationally as well.

The OU REDI curriculum will include presentations, interactive exercises, and detailed case studies that will address all aspects of resilience, from response and resilience planning, through

a major disaster, and navigating comprehensive recovery both short and long-term. The Institute will focus on the role of community and organizational leadership in disaster recovery, and the role of those responsible, whether at local, state, or federal public sector, non-profit/non-governmental sector, or private sector level. OU REDI will address resilience, short-term stabilization/initial recovery, and long term economic, social, psychological, and physical recovery.

The City of Oklahoma City is in the process of completing and adopting a new comprehensive Plan (PlanOKC). PlanOKC was developed under the principals of sustainability with funding assistance from a HUD Community Challenge Grant. Once adopted, the City will update its existing development and building codes to help implement the sustainability goals and objectives of PlanOKC.

The City of Oklahoma City Public Works Department is committed to reducing flood related loss. Public Works, beginning with the Downtown and Deep Fork drainage basins, intends to systematically develop a city-wide drainage master plan. The master plan will enable the City to better understand the City's storm water drainage infrastructure deficiencies and set priorities for funding needed improvements.

With regard to drought mitigation, the City of Oklahoma City has developed a webpage to help educate citizens on the need to conserve water. The Squeeze Every Drop program can be found at <http://www.squeezeeverydrop.com>. The website provides citizens with the current status of the City's reservoirs, notifies citizens of conservation workshops and events, and provides tips on water conservation and appropriate landscaping among other water conservation materials and methods of enforcement.