



Development  
Services Agency

## **National Disaster Resilience Competition Application**

The public comment period for the National Disaster Resilience Competition is open from March 10, 2015 to March 25, 2015. To submit comments on the application, email [Matthew.Lamantia@development.ohio.gov](mailto:Matthew.Lamantia@development.ohio.gov) or forward written comments to:

Ohio Development Services Agency  
Office of Community Development  
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Exhibit A – Executive Summary

State of Ohio

ExhibitAExecutiveSummary.pdf

Ohio's concept for this National Disaster Resiliency Competition (NDRC) can be summarized as the Ohio Brush Creek/Edge of Appalachia Infrastructure Restoration and Resiliency proposal (OBC/EOA IRRP). In 2014, the state of Ohio conducted a Hazard Identification and Risk Assessment (HIRA) as part of the update to the State of Ohio Hazard Mitigation Plan. A HIRA is a systematic way to identify and analyze hazards to determine their scope, impact and the vulnerability of the built environment to such hazards. To determine the hazards that pose the greatest threat to the state, the Ohio Mitigation Plan Advisory Team (OMPAT) in conjunction with the Federal Emergency Management Agency (FEMA) developed a list of potential hazards by conducting a review of several key resources, which include: review of historical data on events that have occurred in the last forty (40) years; review of the 2003 mitigation plan data; collaboration with various agencies that are the known experts on different hazards, including the Ohio Departments of Natural Resources, Transportation and Environmental Protection Agency; review of hazards identified in guidance materials provided by FEMA – Region V on identifying hazards; and review of the local mitigation plans. According to the Ohio HIRA, the following are the top ten hazards (ranking score in parenthesis): windstorm/tornado (24.25), flood/flash flood/seiche (22.75), emerging disease (21.75), earthquake (7.9 magnitude) (21.25), building/structure collapse (20.75), landslide/ mudslide/subsidence (19.25), snow/ice/hail/sleet (19.25), terrorism (19), product defect or contamination (18.75), and extreme temperature (heat and cold) (18.5).

Record rainfall from April – May 2011, coupled with the hilly and steep topography of southern Ohio, proved to be a disastrous combination of circumstances which resulted in the 2011 qualifying disaster, DR-4002. All of the declared counties suffered extensive damage to their road systems, including numerous road slips/landslides. Additionally, the force of the ground movement damaged water lines

and power distribution systems. All told, the current funding through FEMA's Public Assistance (PA) Grant Program exceeds \$46 million.

A line of fast-moving, severe thunderstorms with powerful winds swept across Ohio from west to east late in the afternoon of Friday, June 29, 2012, leaving widespread damage, downed utility poles and electrical wires and hundreds of thousands without power. The National Weather Service reported winds up to eighty (80) miles per hour during the height of the storm system. This event resulted in the 2012 qualifying disaster, DR-4077, for thirty-nine (39) counties. The majority of costs associated with this disaster were for debris removal operations, generators and power restoration performed by the impacted Ohio Rural Electric Cooperatives (RECs). Water booster stations and municipal power facilities also sustained damage that required substantial permanent repairs. PA Program funding for this disaster is currently over \$22 million but based on data from the Ohio Insurance Institute, total costs exceeded \$845 million.

Ohio's target area for this NDRC application is a sub-county area in Adams County, Ohio. In addition to the above mentioned hazards and shocks, the following stresses have been identified through collaboration with local officials and non-governmental organizations as the NDRC application was being developed: poverty, high unemployment, aging infrastructure, drug addiction, lack of affordable housing, lack of technology infrastructure and poor access to healthcare. An additional stress for this target area and Ohio as a whole is that as a high population state, it is difficult to obtain federal disaster assistance. Declaration thresholds require a large segment of homes and businesses be destroyed or have major damage and that damage estimates for local and state governments and eligible private non-profit organizations exceed \$16 million.

The goals and scope of approach for Ohio's application to the NDRC are to: maximize the existing natural resources and partnerships in the eco-tourism industry; identify aspirational job creation and revenue goals; identify opportunities for continuity of critical services such as electricity, water, transportation; improve regional multi-modal mobility and connectivity; improve economic connectivity and entrepreneurship; improve coordination of the delivery of programs and services from state funded programs in order to compensate for the challenges of obtaining federal disaster assistance; and to increase the public return on investment.

Exhibit B – Threshold Narrative

State of Ohio

ExhibitBThresholdNarrative.pdf

General Section, Eligible Applicant, Eligible County – The state of Ohio is an eligible applicant as it had qualifying disasters in 2011 (DR-4002), 2012 (DR-4077) and 2013 (DR-4098). Adams County Ohio was declared under DR-4002 and DR-4077. The state of Ohio has no known issues or circumstances of non-compliance with the General Section of the NOFA.

Sub-County Area - The target area in Adams County comprises a sub-county area of seven (7) contiguous townships that make up the riparian zone of the Ohio Brush Creek's middle fork. See Map A for target area. Riparian areas are transitional zones between water-based and land-based systems that act as buffers to protect surface waters from contamination. Degraded riparian buffers reduce water quality and cause serious property damage and the loss of valuable agricultural lands. Bratton, Oliver, Tiffin, Monroe, Meigs, Brush Creek and Green are the seven (7) townships included in the target area. None of the other townships in Adams County are impacted by Middle Fork Ohio Brush Creek. Adams County is very rural and includes only five (5) census tracts which include large areas of land that would overstate the benefitting population. The census boundaries are also not geographically significant and do not demonstrate a logical or reasonable target area for the areas identified as having unmet recovery needs. Therefore, townships were used to form the sub-county target area. Ohio's one (1) application will address the several areas with unmet recovery needs from the qualifying disasters within this riparian zone.

Most Impacted Characteristic - The target area meets the most impacted threshold for infrastructure as evidenced by the FEMA Project Worksheets (PWs) and the engineering report addressing the unmet recovery needs from the qualifying disasters. The total estimated damage (repaired and to be repaired) and resiliency costs to the area with the Most Impacted and Distressed with Unmet Recovery Needs (MID-URN) are in excess of \$7 million.

Distressed Characteristic - The target area includes 14,480 residents or approximately 50 percent of the county's population. The target area meets the distressed threshold because 53.7 percent of the residents (7,775 residents) are low- and moderate-income (LMI) by the 2006-2010 American Community Survey Low/Moderate-Income Summary Data.

Proposal Incorporates Resilience - The proposed activities in Ohio's application incorporate resiliency through stabilizing and reinforcing embankment slopes, restoring and strengthening county roadway systems, repairing and burying what is now overhead electric conductor, hardening water lines that are within creek beds and are continually uncovered or damaged during flooding and establishing redundant sources of potable water. Additionally, local recovery planning efforts will assist in quicker and greater recovery from future events. Planning at the local level enables local elected officials, citizens, businesses and non-governmental organizations to engage before a disaster to address anticipated recovery needs, thus expediting the recovery process.

Eligible activity, national objective and overall benefit - These are addressed in the certification's section of Ohio's application.

Tie-Back - The activities identified for the URN threshold that can be tied back to the qualifying disasters are located in several locations within the target area. See Map B for URN locations. The first location is in Brush Creek Township. Waggoner Riffle Road traverses along the eastern side and in close proximity to the waters of the Ohio Brush Creek. The geologic features and hilly topography of the area along Waggoner Riffle Road and the Ohio Brush Creek lead to a high potential for landslide activity.

During the 2011 qualifying disaster, an approximate one (1) mile section of Waggoner Riffle Road was significantly impacted by this event. Six (6) of the total of thirty four (34) scattered damage sites that were identified and funded by FEMA as a result of this qualifying disaster occurred specifically along this one (1) mile length of

Waggoner Riffle Road. Damages resulting from the combined vertical and horizontal land movement included loss of the asphalt road surface, loss of the supporting base for the roadway, loss of side drainage ditches and structures and loss of roadway side shoulder and embankment areas. Initial estimates to stabilize the embankment slopes and to then restore Waggoner Riffle Road to its pre-disaster condition were determined to exceed a total of \$460,000 for all six (6) sites.

Geotechnical investigations conducted as part of the FEMA recovery effort ultimately identified that the largest section of the Waggoner Riffle Road landslide activity occurred at a depth of more than twice that which is normally experienced in other parts of Adams County. At this depth the method normally utilized to stabilize the embankment slopes was not adequate or cost effective. An alternative embankment slope stabilization method was determined to be necessary with a resulting opinion of cost exceeding \$1.9 million. Adams County was not able to secure the necessary matching funds to allow the project to proceed and ultimately was forced to withdraw this portion of work from the disaster recovery efforts. Withdraw of this funding allowed for only a small portion of the disaster related repairs along Waggoner Riffle Road to be accomplished.

All sources of local match funds to cover the additional cost of this project were no longer available through the county highway department budget because all discretionary dollars derived from implemented savings measures over the previous ten (10) years, as established for future capital improvement of county roadways and bridges, had been fully allocated to the other damage sites. Additionally, the general fund of the Adams County Commissioners did not have resources which were not previously appropriated that could be redirected toward a match. Funds were sought to provide a local match through the state funded Ohio Public Works Commission (OPWC) Emergency Program. However, at that point in time, the project did not meet

OPWC emergency qualification definition and, therefore could not be funded due to the extended time frame between the 2011 event and the 2013 alternate design funding request.

The inability to secure matching funds for projects of this magnitude has, unfortunately, been a common issue for the local governments within Adams County. Revenues for the annual highway department budget are generated from the state gas tax along with funds derived from vehicle license fees within the county. These funds generate annual revenue of near \$3.5 million. This amount has not increased, and in general, has declined since 2006. All the while labor, material and supply costs along with unfunded/underfunded mandates have significantly increased. These operating revenues barely cover routine maintenance for the county road and bridge systems. The county general fund has been negatively impacted through decreased state local government funding along with increased unfunded mandates for other sectors of county government.

The work being proposed for this project will address the embankment stabilization and roadway restoration within the area of Waggoner Riffle Road that had to be withdrawn from the FEMA recovery efforts. The work will also address embankment stabilization and roadway restoration in an immediately adjacent area which has exhibited further ground movement since the initial recovery efforts took place. Further measures will be taken to enhance the roadway composition, surface drainage features, utility installations and ground cover. The embankment stabilization when combined with the enhancement measures will ensure that this area will be more resilient to future flooding or high intensity rainfall events.

Also impacted at this location are power poles and conductor owned and maintained by the Adams Rural Electric Cooperative (ARE). ARE is the service provider for the target area and portions of four (4) surrounding counties. There are

1,320 miles of electric line and 7,450 metered accounts in their service area. The Waggoner Riffle Road embankment failure is causing ARE's poles to lean over the roadway on the uphill side of the failure. The conductor will need to be relocated once the embankment is stabilized. Additionally, because of the impact to the poles and conductor as a result of the embankment failure and in order to provide redundant power to this area, ARE proposes to bury a section of conductor north along Waggoner Riffle Road from a bridge that crosses Ohio Brush Creek for approximately three (3) miles to the first service area. The first service area is the Eulett Center which is discussed in greater detail in Exhibit E. Burying the conductor will also reduce future damage and the expensive cost of repairing conductor in this extremely rural area.

Finally, this embankment failure is impacting a water line that runs within the ditch line on the uphill side of the road. A redundant water line is being proposed by the Adams County Regional Water District (ACRWD) that would ensure a water source should additional failures happen along Waggoner Riffle Road. See Map C for graphical depiction of area.

The second through fourth URN locations are on Brush Creek Road, Fawcett Road and Cummins Road/SR 348. These locations tie back to the 2012 qualifying disaster (DR-4077) and address utilities owned and maintained by ARE. FEMA PWs were written to address restoration of power and repairs to conductor throughout the ARE service area to include locations in Monroe, Brush Creek, Tiffin, Green and Meigs townships in Adams County. However, hardening or strengthening of the conductor was not approved by FEMA because the damage did not meet the criteria as outlined in FEMA Fact Sheet 9580.6. This unmet recovery need ties back by strengthening through replacement of copper conductor with aluminum-conductor steel reinforced (ACSR) twenty (20) miles of overhead electric conductor that were impacted by the 2012 qualifying disaster. There is a significant cost increase from copper to ACSR.

These improvements can only be funded through loans from the Rural Utility Services. ARE has to prioritize, over several years, the small sections of line they can improve through these loans as their budget is small and mostly tied to maintenance and annual storm damage repairs.

Finally, the ACRWD will address hardening of potable water supply lines at two (2) locations within the Ohio Brush Creek corridor target area (one each in Meigs Township and Oliver Township). In order to get water to the rural areas of the county, the ACRWD must at times build water lines in precarious locations such as within stream beds. These two (2) locations (Peterson Road and Inslow Avenue/Malcom Road) have been repeatedly impacted by flooding as water erodes the soil that protects the water lines. Once exposed, the lines are more susceptible to damage/ breakage requiring constant maintenance following heavy rains. These resiliency measures will provide an alternate potable water supply that will assure that residents along the Ohio Brush Creek corridor and also within the village of Peebles will maintain a supply of potable water should a main feed line be lost in future flood events. As with ARE, this small rural water district can only fund large scale redundancy projects like these when there is significant outside funding sources.

Exhibit C – Capacity

State of Ohio

ExhibitCCapacity.pdf

General Management and Cross-Disciplinary Technical Capacity Sub-factors -

The NDRC CDBG award will be administered and implemented through a partnership of the Ohio Emergency Management Agency (Ohio EMA), the Ohio Development Services Agency (ODSA), the Adams County Commissioners (ACC), and the Adams County Engineer (ACE). This partnership also jointly authored this application.

ODSA will act as the applicant and administrator of the NDRC award. ODSA is the administrator of the state of Ohio's U.S. Department of Housing and Urban Development (HUD) Office of Community Planning and Development programs including the state Community Development Block Grant Program (CDBG), HOME Investment Partnership Program (HOME), Emergency Solutions Grant Program (ESGP) and the Housing Opportunity for Persons with AIDS Program (HOPWA). Additionally, ODSA has successfully administered the CDBG-Recovery (CDBG-R), Neighborhood Stabilization Program (NSP), Homelessness Prevention and Rapid-Rehousing Program (HPRP), and multiple CDBG-Disaster Recovery Grants (CDBG-DR).

Through the Office of Community Development (OCD), ODSA administers the Community Development Program and Residential Public Infrastructure Program with state CDBG funds. These programs focus primarily on high impact public facilities and public infrastructure projects similar to those proposed through this grant. The OCD has over thirty (30) years of experience with successful implementation of the program. The OCD assists communities in developing and structuring eligible projects that meet one of the CDBG national objectives of low- and moderate-income (LMI) benefit, elimination of slum and blight, and urgent need. The OCD reviews applications for eligibility, impact, affordability, effectiveness, sustainability and consistency with locally identified needs and administrative capacity. The OCD makes funding decisions based on the availability of funds and the review criteria outlined above. The OCD provides

technical assistance throughout the award period to ensure timely project completion and compliance with federal statutes and regulatory requirements. The OCD also monitors for national objective, citizen participation, environmental review, procurement, construction and contract management, labor standards, and financial management after the project has been completed. To ensure continued success, communities are sanctioned when violations are noted and prior to program close. Additionally, through the administration of the NSP and CDBG-DR, the OCD has significant ongoing experience with the Disaster Recovery Grant Reporting System (DRGR) that will be utilized for the drawdowns and reporting for the NDRC award.

ODSA would be the grantee of the program and would be responsible for the administration of the grant, including the drawdown of funds, reporting, compliance with federal statute and regulations, monitoring, final reporting and grant closeout. Additionally, ODSA is currently developing the State's Analysis of Impediments and will incorporate any relevant findings into the Phase 2 proposal.

The Ohio EMA would be the state agency primarily responsible for implementing the local planning piece of the proposal and would provide general technical assistance and support for cost benefit analyses, as needed. The primary mission of the Ohio EMA is to coordinate activities to mitigate, prepare for, respond to and recover from disasters. This mission is carried out by closely interfacing with local, state and federal agencies, as well as authorities, districts and the rural electric cooperatives (REC), in an effort to bring resources of recovery and support to Ohioans impacted by disasters. In addition to disaster response and recovery, the Ohio EMA activities include: education, training, planning and preparedness and therefore, has staff with a wide variety of disciplinary expertise. Ohio EMA also annually hosts and attends FEMA's Benefit Cost Analysis course to ensure the appropriate level of training for EMA staff and local project managers. Finally, agency staff has decades of experience in

administering the FEMA Public Assistance (PA), Hazard Mitigation Grant (HMGP), Pre-Disaster Mitigation and Flood Mitigation Assistance Programs to include drawdown of funds, reporting, compliance with federal statute and regulations, monitoring, final reporting and grant closeout.

The ACC, through the Adams County Economic and Community Development Office (ACECDO), will be responsible for leading the citizen engagement process and coordinating compliance issues such as environmental review, Davis-Bacon, fair housing, and other CDBG related areas. The ACC implement an annual Community Development Program as part of the state's CDBG Program. In this role, current staff has developed the technical expertise and administrative capacity to manage the implementation of large-scale CDBG projects. Please see Exhibit G, page 42 of this application, for examples of large, complex projects implemented since the qualifying disasters. The OCD staff will also provide technical assistance to the ACC in these areas during the implementation phase.

The ACE's Department has a strong working relationship with the ACC and the ACECDO. The Department also maintains a strong working relationship with local, state and federal entities including all local municipalities, townships and public/private boards. These relationships have led to numerous federal and state funded projects being completed over the past twenty (20) years. Significant improvements have been realized toward the infrastructure within Adams County including access to schools, health facilities and industrial/commercial facilities and upgrades and expansions of county and municipal water and sewer systems.

Staffing levels of the ACE's Department are small when compared with other government entities. However, the Department possesses well over one hundred (100) years of combined project management experience. These experiences cover all aspects of accounting, estimating, budgeting, bidding, contracting, scheduling,

monitoring and testing necessary to achieve positive project results. The Department maintains a reputation of being “fair, but firm” in all contractor interaction. Additionally, the County Engineer, as well as the Deputy Engineer possesses a Professional Engineering License in the state of Ohio. The County Engineer, as required by Ohio Revised Code, also possesses a Professional Surveyors License in the state of Ohio. This licensing inclusive of a combined forty-five (45) years of engineering experience allow for many highway and bridge projects to be designed “in house”. This level of experience produces completed projects which are not only cost effective but are built to a high level of endurance and longevity.

Community Engagement Sub-factor - Successful community engagement will be critical to the success not only of the proposal itself but to illustrate the importance of implementing resilient design into significant community projects. Additionally, this proposal will serve as a pilot for incorporating resiliency in an isolated Appalachian community. Please see Exhibit E (beginning on page 26 of this application for community engagement activities undertaken during the Phase 1 framing process.

The ACC and the ACE’s Department will lead the community outreach as the project transitions from framing to implementation. The ACC conduct annual public participation as part of its CDBG program. This includes multiple public hearings. In the 2015 program year, the ACC will also undertake the Community Development Implementation Strategy (CDIS). The CDIS is an innovative planning approach developed by the ODSA to further incorporate stakeholder involvement in identifying and prioritizing community development projects as well as educating local policy makers on the availability of programs and funding and identifying opportunities for partnerships.

The ACC implementation of CDBG projects typically involves multiple partners, including local governments. The ACC has implemented twenty-one (21) CDBG

projects in eleven (11) communities since 2010. The majority have been large-scale water and sewer facilities projects that required coordination with multiple partners, including local government officials, the Appalachian Regional Commission (ARC), the Ohio Environmental Protection Agency (Ohio EPA), the Adams County Regional Water District (ACRWD) and the Ohio Valley Regional Development Commission (OVRDC). The ACC has also partnered with ten (10) county fire departments, the county homeless shelter and the county senior center to undertake recent CDBG projects.

In addition, Ohio EMA conducts stakeholder outreach in several ways. During response, the Ohio EMA is the lead agency for coordinating the response to the event, to include operation the State Emergency Operations Center, management of mission assignment requests and communication of the status and issues related to the disaster to local, state, federal and non-governmental agency stakeholders. Should financial assistance be made available following a disaster, the Recovery Branch of Ohio EMA administers the FEMA PA Program and partners with FEMA as they administer the FEMA Individual Assistance Program. Similarly, the Mitigation Branch conducts briefings and public meetings in counties that wish to develop mitigation projects under the HMGP. Finally, several sections within Ohio EMA regularly work with county EMA offices and other local officials in the development and update of county Emergency Operations Plans, debris management plans, recovery plans and mitigation plans and in statewide planning such as the state of Ohio Recovery Strategies, the State Emergency Operations Plan, continuity of operations plans and continuity of government plans.

Regional or Multi-governmental Capacity Sub-factor - The ACE, by Ohio Revised Code, is the engineering consultant to all sixteen (16) townships within Adams County. In this capacity the Engineer provides guidance, analysis, design, cost estimates and project management services. The Adams County Highway Department, under the

direction of the ACE, provides occasional labor and equipment resources to the townships that permit projects to be completed without removing the responsibility or accountability of the township. The ACE's Department also provides a cooperative purchasing environment which permits townships as well as municipalities to order various materials in conjunction with the ACE's Department thereby realizing a cost savings from the larger volume order. The ACE has also implemented a policy for townships, municipalities and other public entities to cooperatively be included in large project grant requests. In this format many local entities have received funds to complete projects within their jurisdiction which would normally not be approved.

Further demonstrating this multi-governmental capacity, the ACE's Department was instrumental in working with the local townships and municipalities during the 2011 qualifying disaster to aid in damage assessment and repair estimates. This assistance provided these entities with the tools necessary to establish their needs in recovering from the event and resulted in fifty-five (55) identified FEMA PWs that received total federal, state and local funding of \$3,016,165.90 for six (6) local governments in the county.

Adams County is also part of the OVRDC. OVRDC is a twelve (12) county regional planning commission that also serves as the Local Development District for the Appalachian Regional Commission and as an Economic Development District for the Department of Commerce Economic Development Administration. The OVRDC is also a Regional Transportation Planning Organization, designated by the Ohio Department of Transportation. The OVRDC has participated in stakeholder outreach for this proposal and will be further involved as the application moves from the framing to the implementation phase.

As Ohio shifts into the implementation phase, partners and stakeholders will consider the establishment of Infrastructure Improvement Districts (IID) or Infrastructure

Planning Organizations (IPO). The benefit of these types of multi-entity organizations has been realized as new relationships have been forged and as existing relationships have been strengthened during the framing phase of this competition. There are already transportation improvement districts, metropolitan planning organizations and rural transportation planning organizations that were established throughout the state using an existing Ohio statute that outlines the creation of special improvement districts. Formation of an IID or IPO could assist this long-term commitment effort for collaborating and addressing resiliency not only in the target area but throughout the region and state.

Initially Ohio's concept of maximizing the existing natural resources and partnerships in the eco-tourism industry; identifying aspirational job creation and revenue goals; identifying opportunities for continuity of critical services such as electricity, water, transportation; improving regional multi-modal mobility and connectivity; improving economic connectivity and entrepreneurship; improving coordination of the delivery of programs and services from state funded programs in order to compensate for the challenges of obtaining federal disaster assistance; and increasing the public return on investment is being framed around the MID-URN target area and county-wide. When implemented, the concept can be modeled for other Appalachian communities through regional partnerships such as OVRDC and the ARC. The citizens of Adams County have already demonstrated the ability to grow a local concept into a regional and international success by way of quilt barns. The colorful quilt-square-inspired murals that decorate the sides of rural barns in Ohio's Appalachian counties celebrate the region's proud traditions of quilting, storytelling and farming. Since 2001, when the first quilt barn committee formed in Adams County, an estimated 2,000 murals have joined the national clothesline of quilts, which today extends from New York to Texas and even British Columbia. Counties have marketed

these quilt barns through roadside billboards, tour buses and even cell phone guided tours. In summary, Ohio has the technical capacity to meet the general management and cross disciplinary requirements of this proposal as well as the partnerships and past performance needed to make it a success.

Exhibit D – Need/Extent of the Program Narrative

State of Ohio

ExhibitDNeedNarrative.pdf

MID-URN Sub-factors – Ohio’s MID-URN is a contiguous seven (7) township sub-county area of Adams County. The sub-county area sustained over \$7 million in damage from two (2) qualifying disasters. The LMI of the sub-county area is 53.7 percent and unmet recovery needs exceed \$5 million. Additional information on the MID-URN can be found in Exhibit B on pages 6 – 11 of this application.

Resilience can be defined as a community’s ability to “bounce back” from a disaster or similar event. There are many factors that contribute to a community’s resilience: effective leadership, risk awareness and access to resources are just a few key factors. When viewing resilience in light of emergency management, a community’s ability to mitigate and recover from future disaster events is critical to community resilience. The State of Ohio Enhanced Hazard Mitigation Plan identifies hazards and threats in the state, estimates vulnerability and recommends strategies to reduce risk. Each county in the state of Ohio also has a local hazard mitigation plan that evaluates risk, estimates vulnerability and recommends mitigation strategies at the local level. The state and local hazard mitigation plans were utilized during the framing phase for this application to evaluate hazards, vulnerabilities, and resilience needs in the MID-URN project area as well as the Appalachian region and state as a whole. The Plan data is the best available on the subjects of risk and vulnerability as they synthesize data from government, academia and the private sector and were developed at the state and local level by experts in the multi-disciplinary field of emergency management.

The State of Ohio Enhanced Hazard Mitigation Plan adopted in May 2014 evaluates the historic occurrence and future probability of all hazards that could affect the state. The plan evaluates these hazards utilizing multiple hazard identification and risk assessment processes recommended by the Federal Emergency Management Agency (FEMA), the National Emergency Management Association (NEMA) and the

state of Ohio. The State Hazard Mitigation Plan lists flooding, tornadoes, landslides, severe storms and invasive species as the highest ranking threats in the state. The Ohio Brush Creek/Edge of Appalachia Infrastructure Restoration and Resiliency Proposal (OBC/EOA IRRP) will contain mitigation and resilience activities that will address risk from flooding, wind, landslide, and severe summer/winter storms. However, given the focus of the OBC/EOA IRRP, and length limitations of this application, this analysis will focus on the resilience needs for flooding and landslide.

Since 1964, Adams County has had fifteen (15) major disaster declarations, eleven (11) of those have included flooding and one (1) declaration which included landslides. According to the Adams County – Countywide All Natural Hazard Mitigation Plan, the National Climatic Data Center has recorded forty-four (44) flood events and twenty-one (21) flash flood events in the county between 1950 and 2006. Those flood events have resulted in multiple fatalities and over \$40 million in property damage. As a result, the county and most incorporated areas participate in the National Flood Insurance Program (NFIP) and have adopted regulations for development in identified flood hazard areas. As of December 31, 2014 there were 129 NFIP flood insurance policies in Adams County for \$13,013,600 in coverage. The majority of those policies, 88 percent, are for residential structures. There have been 130 paid losses totaling \$1,317,147. Since the proposed OBC/EOA IRRP is focused on infrastructure, none of the facilities in the proposed project are insurable through the NFIP and therefore subject to the “one bite rule”.

HAZUS is a Geographical Information System (GIS) based program developed by FEMA to estimate potential flood losses. The U.S. Army Corps of Engineers conducted a HAZUS run for Adams County that estimated potential

damages during a 100-year event. Statistically, the 100-year flood (or 1% annual-chance flood) has a 25 percent chance of occurring during a 30-year mortgage. The HAZUS program determined that the county has \$682,584,000 dollars in building exposure and would suffer approximately \$155,190,000 in losses during this event. This would include an estimated \$1,240,000 in business interruption and over 550 substantially damaged structures. A structure that is substantially damaged has incurred a loss that equals or exceeds 50 percent of the market value of the structure. Substantially damaged structures must be brought into compliance with current local flood damage reduction regulations. According to the Adams County – Countywide All Natural Hazard Mitigation Plan, a GIS analysis performed by the Ohio Department of Natural Resources, Floodplain Management Program found similar flood vulnerability results.

To help mitigate flood risk and improve resilience in the county, the Village of Manchester participated in a state/locally funded project to acquire and demolish six (6) repetitively flooded structures. These structures were purchased following the 1997 Ohio River flood and are currently maintained as open space.

In addition to flood risk, the state and local mitigation plans indicate that Adams County is susceptible to landslides. The steep, hilly terrain and soil structure of the area contribute to this regions higher landslide risk. The southwest portion of the county is considered a “high landslide incidence area”, the southern and eastern portion of the county is considered to be a “moderate landslide incidence” area. The Ohio Department of Transportation (ODOT) estimates that Adams County is in an ODOT district that experiences an annual average of twenty (20) landslides. These landslides affect transportation, infrastructure and personal property. The U.S. Geological Survey considers Adams County to be a “high potential loss” because it is in

an area where a large number of landslides have occurred and there are many areas that are susceptible.

The historic effects of many hazards in the project area are quantifiable and known and documented. Many experts believe that climate change will amplify the impacts of flooding, landslides and other hazards. The National Climate Assessment 2014 report on the Midwest region of the U.S. outlines some possible impacts of climate change that will be considered in the development of the OBC/EOA IRRP. One of the key messages of this report applicable to the OBC/EOA IRRP is that “Extreme rainfall events and flooding have increased during the last century, and these trends are expected to continue, causing erosion, declining water quality, and negative impacts on transportation, agriculture, human health and infrastructure.” The report goes on to say that, “In general, climate change will tend to amplify existing climate related risks...to people, ecosystems, and infrastructure in the Midwest.” The recovery program being proposed through Ohio’s application to the NDRC mitigate the projected effects of climate change and improve the resiliency of Adams County’s through strengthened infrastructure (electric, road and water) and recovery planning. A co-benefit of this resiliency will be economic development through job creation and increased revenues.

The State Hazard Mitigation Plan also contains a discussion on climate change and summarizes the projected impacts to the state based on recent studies from multiple credible sources. It identifies broad categories of climate change adaptations to include: developing greater built environment resilience; improving storm water infrastructure; increasing water quality and resource protection; and enhancing essential utility resilience. In general, the recent studies all indicate that climate change will result in changes in precipitation

rates and variability. These changes will lead to increased flooding in the spring and fall and increased periods of drought in the summer. If the current trends continue and future projections are realized, Adams County will be subject to increased flooding which will affect erosion rates and lead to increased landslides causing impacts to people, ecosystem and infrastructure. To mitigate these damages, the State Hazard Mitigation Plan recommends several adaptation strategies, two (2) of which would be addressed by the OBC/EOA IRRP; first to develop greater built environment resilience and second to enhance essential utility resilience.

In addition to the recommendation for climate change adaptation, the OBC/EOA IRRP addresses a goal and two objectives in the State of Ohio Enhanced Hazard Mitigation Plan. One of the Plan goals that would be addressed is to “minimize damage to property and societal disruptions from hazard events”. The funding and successful completion of this proposal will also meet two objectives listed under goal two (2) in the State Hazard Mitigation Plan; first to identify funding sources and obtain funds from a variety of federal, state, regional and local entities to implement mitigation activities and second to promote sustainable communities and hazard resilient development.

Power outages and utility infrastructure damage accompany the occurrence of many of Ohio’s most frequent disaster events. Power outages complicate the recovery process and damage to infrastructure can be timely and expensive to repair. To address this, in 2013 the Ohio EMA partnered with the Ohio Rural Electric Cooperative, Inc. to develop an appendix to the State Hazard Mitigation Plan that addresses the importance of hazard mitigation and resiliency of the electric utility infrastructure. There are twenty-five (25) REC’s in the state that serve more than 380,000 homes and businesses in seventy-seven (77) of the eighty-eight (88) counties. As part of the appendix development, these RECs were asked to complete a risk assessment and identify actions they plan to take to mitigate risk to their infrastructure.

In order to address recovery needs, not only as a result of the qualifying disasters but also in preparation for future shocks, the Ohio EMA also is in the process of developing state level Recovery Strategies that will expedite the recovery process and improve resiliency in the state. Over a two (2) year period (2014-2015) the state will develop strategies to address housing, infrastructure, economics, health and social services and natural and cultural resources. Ohio EMA is partnering with over fifty (50) local, state, federal and non-governmental organizations to identify their roles and capabilities in order to provide a framework for how these resources can be most efficiently delivered at the local level during recovery.

The next logical step to this statewide planning initiative is to encourage local recovery planning efforts. To this end and as part of this proposal, Ohio EMA staff will work with the Adams County EMA office to coordinate the development of a countywide disaster recovery plan. The development of this plan will enable Ohio EMA staff to build additional capacity and resources as the agency assists other local governments within the state in developing local recovery plans. The Adams County plan can be used as one (1) example of planning efforts that can be shared around the state and ultimately improve recovery capability and resiliency statewide.

Finally, Adams County is located in the Appalachian Region, as defined in the Appalachian Regional Commission's authorizing legislation, which is a 205,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. Forty-two percent of the Region's population is rural, compared with 20 percent of the nation's population. Appalachian communities traditionally lack in transportation, water and sanitary sewer, public utilities and technology infrastructure. The area suffers from poverty, high unemployment, drug addiction, lack of affordable housing, and

poor access to healthcare. Magnifying these distresses are the geography, topography, undeveloped or aging infrastructure and shortage of other economic resources which separates Ohio's Appalachian communities from the rest of the state. Highlighting the geography issues is the rural and forested nature of the target area and county. In order to serve the rural population, utility services generally have to run their systems through forests and streams in order to get a more direct route to their customers. They also lack the resources to provide redundant utility sources. These circumstances leave this infrastructure more vulnerable to shocks and more difficult to access after disasters resulting in lengthy restoration delays to an already vulnerable population. This isolation makes it dire for Adams County to take measures to increase independence and strengthen resilience to economic and disaster hazards.

By addressing the resiliency of critical infrastructure, thereby improving the continuity of physical connectivity to the rest of the region and the state, Adams County will become a more attractive place for economic investment. Reliable infrastructure can be leveraged by the county as it works to increase eco-tourism opportunities and small business development. Economic development and job creation will be key to leveraging other resources as the county continues to address identified stressors such as the aging population, lack of technology infrastructure, and poor access to healthcare.

Exhibit E – Soundness of Approach

State of Ohio

ExhibitESoundnessofApproachNarrative.pdf

Stakeholder Consultation - In early October 2014, the Ohio Development Services Agency (ODSA) and the Ohio Emergency Management Agency (Ohio EMA) began collaborating on the NDRC. On October 27, 2014, the Ohio EMA sent an email to all county EMA directors that were included in the qualifying disasters to notify them of the NDRC and to solicit proposals for Ohio's application. Ohio EMA was already considering submission of two (2) proposals: partnering with local emergency managers to develop local long term recovery plans and construction of community safe rooms. These proposals were shared with the county EMA directors and there was support, particularly with the development of the recovery plans.

On December 3, 2014, various state agencies met to discuss this competition and to brainstorm possible proposals. Agencies represented at the meeting were ODSA, Ohio EMA, Public Utilities Commission of Ohio (PUCO), Ohio Department of Natural Resources (DNR), Ohio Environmental Protection Agency (EPA), Ohio Department of Transportation (DOT), Ohio Housing Finance Agency (OHFA), Ohio Department of Insurance (ODI), the Emergency Management Association of Ohio (EMAO) (association of county emergency management officials) and the Governor's office. Local communities impacted by the disaster declarations in 2011, 2012 and 2013 had made significant strides in their recovery so identifying a MID-URN target area was proving difficult. Following the meeting, several proposals were drafted and considered as the application was developed. A summary of the proposals, stakeholder engagement (actual and proposed) is outlined below.

Ohio EPA's proposal was to provide funding for communities in the affected areas to develop public water supply redundancy and resiliency through interconnections with other systems, alternative raw water sources, additional finished

water storage and emergency power generation. Ohio EPA has a strong existing Clean Water State Revolving Fund program that could coordinate implementation of the proposal, if selected in whole or in part. Stakeholders would be integrated into the development of the proposal via Ohio EPA's public comment process and their Division of Drinking and Ground Water (DDAGW) would use their listserv notification processes to make water systems aware of the proposal and would schedule meetings or webinars to accept input from stakeholders.

Once the target area was identified in Adams County, Ohio EPA discussed their proposal with the Adams County Regional Water District (ACRWD) and the county's villages. As a state, Ohio strongly encourages regionalization and shared resources. Interconnections with other systems would allow neighboring systems to help each other in times of contamination events at either their raw water sources or their distribution systems. Alternative sources would allow a public water system to switch to a different source so they could continue to treat and provide adequate quantities and quality of potable water to their customers and additional water storage allows a system to go offline for periods of time for emergencies while still providing an appropriate level of service. Additionally, emergency power generation would allow public water systems to maintain appropriate levels of service in the event of short and long-term electrical disruptions. Ohio EPA's current Water Supply Revolving Loan Account program encourages the installation of emergency power through matching funds to public water systems.

Submitted by the ODSA, the proposal was for local emergency energy planning, grid resiliency, and infrastructure funding and sought to engage local stakeholders in developing and funding disaster responsive resilient critical energy infrastructure at the community level. The proposal would leverage planning, partner development, existing infrastructure, and current technology to assist communities and providers to become

more resilient in the event of a disaster and would engage local communities as well as rural electric cooperatives (REC) and municipal power providers to identify existing energy infrastructure, potential micro-grid nodes, and appropriate community centers to serve as a project pilot. The proposal would work with communities and local energy providers to identify vulnerabilities in the electrical grid, specifically those exposed in the qualifying disasters and would target schools and community centers as focal points for energy continuity so that the members of the community would benefit from continuing access to energy during a disaster as well as access to shelters and at distribution points for disaster supplies.

The Ohio DNR submitted a proposal to build community resiliency in northeastern Ohio. The proposal included three distinct activities: a waterfront/shoreline resiliency assessment to improve the effectiveness of existing shoreline protection, harbor structures and associated breakwaters; development and coordination of a “Storm-Safe Communities” program that would assist with the development and implementation of community resiliency plans in urban communities most severely affected by storms that cause flooding; and creation of maps that identify areas prone to flooding to prioritize flood mitigation efforts that would include, but not be limited to, tree planting and targeted green infrastructure installation.

Finally, the Ohio EMA submitted a proposal to partnership with the Adams County Engineer’s (ACE) Department to address unmet needs from the 2011 qualifying disaster and to assist in development of local recovery plans. Ohio EMA was aware of the need for the ACEs Department to withdraw a project from FEMA funding, as outlined on page 8 of this application.

Upon evaluation of the proposals compared to the MID-URN threshold requirement, a meeting was held in Adams County on January 8, 2015 with local

stakeholders and state agencies to provide an overview of the NDRC opportunity and to get assistance in developing and refining the proposal. In attendance were the ACE's Department, the Adams County Commissioners (ACC) Office, the Adams County Economic Community Development Office (ACECDO), the Ohio Valley Regional Development Commission (OVRDC), Ohio EPA, Ohio EMA, ODSA, Adams Rural Electric (ARE), The Nature Conservancy (TNC) and the Cincinnati Museum Center (CMC). The discussion at the meeting focused on infrastructure resiliency and redundancy (roads, water, power, etc.), preservation of the natural environment and tourism.

The Office of Community Development (OCD) administers Appalachian Regional Commission (ARC) and State Appalachian Development Program funding for the state of Ohio and serves as the HUD Basic Agency for ARC projects. In this capacity, the OCD works closely with OVRDC and the three (3) other Local Development Districts that serve Ohio's thirty-two (32) Appalachian counties. OVRDC attended the January 8, 2015 meeting and provided input as a representative of the county's rural population.

The involvement with the greater community during the framing phase was conducted during the public hearing held in Adams County on March 9, 2015 and during the fifteen (15) day public comment period. Indirectly, Ohio has considered the greater community, to include vulnerable populations, by addressing during the framing phase the strengths and weaknesses identified in the county's Strengths, Weaknesses, Opportunities and Threats (SWOT) process. This SWOT process was conducted by the ACECDO in 2014 and included interviewing fifteen (15) individuals from Adams County who represented area schools, businesses, industry and non-profit institutions. These interviews identified the following weaknesses: high unemployment, increased substance abuse and drugs, blight, lack of infrastructure outside of municipalities (natural gas), poor cell service/reception, topography- hillsides and slopes hinders development and

utility/sewer/and waterline extensions, pockets of run down areas in all the villages, little to no planning occurring for community development activities, actions only reactionary, community not united and county has small financial base. In considering these issues, Ohio's proposal looks to build more resilient infrastructure to address weaknesses such as lack of infrastructure outside of municipalities (natural gas), poor cell service/reception and topography- hillsides and slopes that hinder development and utility/sewer/and waterline extensions. Additionally, a co-benefit of stronger infrastructure is the incentive of businesses to locate to the area which brings jobs and tourist opportunities. Success in this area would address urban blight, high unemployment and low tax base. These issues are not unique to the target area but are pervasive in Ohio's Appalachian counties.

During Ohio's framing phase, we have also engaged with the Cincinnati Museum Center (CMC) and the Ohio Chapter of The Nature Conservancy (TNC). These two groups co-own and co-manage a 17,000 acre nature preserve that was started in 1959. The preserve, often referred to as The Edge or Edge of Appalachia (EOA), is one of the largest privately owned nature preserves east of the Mississippi River. Three (3) sites on the preserve are recognized as National Natural Landmarks under the United State Department of Agriculture National Natural Landmark Program: Buzzardroost Rock, The Wilderness and the Lynx Prairie and Red Rock Preserves. It protects nearly 1200 species of plant, over one hundred (100) state rare or endangered species and eight (8) globally rare plant communities. The preserve also works to protect Ohio Brush Creek which is rated eighth in Ohio for biological diversity.

The Eulett Center, which is operated by the EOA is on the road that has been identified as having an unmet need due to a qualifying disaster (see Exhibit B, page 7 of this application for more information on the URN). The Eulett Center is a multiuse facility. It offers a community and regional resource center for groups to use for education, meetings and trainings. The museum also offers Adams County specific educational

programs such as Eulett Center After Hours. The current educational programming by CMC staff includes as Graduate Science Camp: A Naturalist's Academy and Ohio Valley and Manchester Local School District Programs. There are also overnight facilities and lab space for visiting researchers and preserve staff offices. The damage to the road is currently impacting access to the Eulett Center and their visitor center.

In addition to the Eulett Center, the EOA provides guided hikes and access to and stewardship of four public trails, totaling 11.4 miles. A new visitor hub and trail opened in 2014 as well as new trailheads and signage of all three public trails. In 2015, the EOA opened the beginning of a fifteen (15) mile section of the Buckeye Trail on the preserve. Once completed, the Buckeye Trail will be coincident with two (2) national trails and will connect the EOA visitor center to the Shawnee State Forest located to the east of the target area.

Finally, the format and subject matter expertise that shaped the Resiliency Academy was also immensely beneficial to the development of the proposal. The Academy helped the project partners (representatives from ODSA, Ohio EMA and the ACE's Department attended) pivot from just thinking about the target area, to thinking of the benefits of resiliency on a regional and statewide basis. Learning how the other applicants were approaching their applications also helped broaden Ohio's scope with ideas and issues that had not yet been addressed during Ohio's framing phase.

Ideas/Concept Sub-factor - Repeated natural disasters, primarily flooding, have continued to negatively impact the infrastructure, economy, communities, and citizens of southern Ohio. Through strengthening infrastructure and supporting strategic private and public investment, the state of Ohio and Adams County will create an implementation platform to build physical and economic resilience within the community as a model for the rest of southern Ohio and other Appalachian communities throughout the nation. Targeted economic development, leveraging the

natural assets of the region as well as resilient infrastructure will generate revenue and avoid future recovery costs resulting in a more sustainable and resilient community.

For being extremely rural, the target area for Ohio's proposal has some distinctive aspects. It is home to the Great Serpent Mound which is a 1,348-foot-long, three-foot-high prehistoric effigy mound on a plateau of the Serpent Mound crater along Ohio Brush Creek. It is maintained within a park by the Ohio History Connection and has been designated a National Historic Landmark by the United States Department of Interior. Adams County is also known internationally as a top location for hunting white tail deer.

The target area is also home to the General Electric-Peebles Test Operations (GE-PTO) facility. This facility is recognized as one of the world's most advanced jet engine testing centers. In addition to being a world leader in engine development and production, the facility performs ground tests required for certification of aircraft engines for commercial and military operations. The facility is also licensed by the U.S. Federal Aviation Administration as a Class 3 Unlimited Repair Station qualified to work on commercial jet engines from throughout the world. GE-PTO has full engine disassembly and assembly capability, replaces unserviceable modules and components- then tests the engines before returning them to service.

General Electric started operations in Adams County in 1954 by purchasing 5700 acres of wooded land in the hilly region of Franklin and Meigs Townships. Over the past fifty-six (56) years, the GE-PTO facility has continued to expand its testing capabilities of jet propulsion engines and has become a recognized leader in jet engine development, production and testing. The service area for GE- PTO is global. In addition to testing domestic engines GE-PTO tests engines from the United Arab Emirates, Singapore, China, Japan, Brazil, Canada, France, Australia, and United Kingdom. Foreign company

executives and test engineers frequently accompany their engines and stay in accommodations located on the GE-PTO grounds to witness the testing process.

The general scope for Ohio's proposal is to repair infrastructure damaged during qualifying disasters to include embankment stabilizations, repairs to infrastructure (roads, water and power poles/lines), relocation of a power distribution systems and creation of redundant power/water sources. The partnership developed out of this project will leverage additional resources to make local infrastructure more resilient, not just to disasters but to age and use and will also create and sustain new partnerships through the local recovery planning process. Stronger infrastructure will support small business development and bolster the tourism industry. This framework of making resilient infrastructure as a precursor to economic prosperity can be modeled for other Appalachian counties within Ohio and across her borders. Ohio is encouraged by the quantity and quality of approach thus far and welcomes the continued collaboration and alternate approaches to addressing our risks and vulnerabilities.

The focus of Ohio's proposal is far reaching and involves representatives from local community development offices, environmental protection and natural resources agencies, etc. It includes planners, grant administrators, engineers, elected officials and philanthropic organizations. During Phase 2 implementation, Ohio will address how business development can have positive and negative effects in adjacent areas. On the positive side prosperity section of the target area could bring positive results and enhance the region. However, the new community development could take away from established businesses elsewhere.

The ACCs administer CDBG funding for housing, community development, and economic development projects and coordinate and target resources to address these needs comprehensively. Ohio will also enhance and strengthen the

established interdependencies referenced in Exhibit C (pages 14-16 of the application) through continued partnership in grant opportunities, damage assessment and in day to day maintenance of local infrastructure.

In 2012, the state of Ohio developed a standardized Hazard Identification and Risk Assessment (HIRA) process that counties can utilize as part of their local hazard mitigation planning process. Counties that have updated their mitigation plan can log into Ohio EMAs website and enter a summary of the HIRA data for the county. The HIRA process asks communities to evaluate hazard risk based on: frequency, response time, onset time for the disaster, and impacts to people, property and businesses. There is also a screen that captures vulnerability data for different types of structures (residential, non-residential, and critical) at risk to each hazard and any available estimates of damage in dollars. The standardized HIRA methodology can be used by counties to evaluate their progress toward reducing response time, increasing the disaster onset time, and reducing impact to people and property. Therefore, although no communities in the target area participate in the NFIP Community Rating System, counties that improve their rating in any of the above areas will improve their community's disaster resilience.

Finally, The Ohio State University has long been a leader in global climate change research, from physical drivers to impacts to adaptation and mitigation. Research teams across the university are investigating many aspects of global change, including: glaciers, climate change and sea level, atmospheric sciences, contemporary and paleo climate; ecosystem and biodiversity impacts, greenhouse gas monitoring and mitigation, freshwater quantity and quality, economic modeling, coastal community adaptation and mitigation; and changes in ecosystem services, risk and decision science, education and community engagement, agricultural impacts and strategies.

In addition, the Ohio State University Climate Change Outreach Team is a partnership among multiple departments within Ohio State University. The team's goal is to help localize the climate change issue by bringing related research and resources to residents of Ohio and the Great Lakes region. The team is comprised of leading academics from Ohio State Extension, the Department of Agricultural, Environmental, & Development Economics, Byrd Polar Research Center, School of Environment and Natural Resources (SENR), Department of Geography, Department of Evolution, Ecology & Organismal Biology, Ohio Agricultural Research and Development Center (OARDC) and the Ohio Sea Grant College Program & Stone Laboratory. The team provides regular webinars that address various climate change related topics, with a focus on the Great Lakes region and the State of Ohio.

If selected to go forward to Phase 2, Ohio will continue this collaboration with the stakeholders as we refine the scope of the proposal and seek additional leverage. There will be continued dialogue with local and state officials and private organizations in order to build a solid foundation of strengthening infrastructure and growing the economies in additional Appalachian counties in the state and throughout the nation. Ohio will broaden the stakeholder base by engaging with the organizations and businesses that make the area so unique.

Exhibit F – Leverage and Outcomes

State of Ohio

ExhibitFLeveragesandOutcomesNarrative.pdf

Outcomes Sub-factor - The resiliency aspects of Ohio's proposal will have a useful life of 75-100 years. The planning aspects of Ohio's proposal will provide indefinite vulnerability and risk reduction solutions because it will address the recovery of the community pre-event. Based on the Federal Emergency Management Agency's (FEMA) National Disaster Recovery Framework (NDRF), the local recovery planning process identifies a local recovery task force comprised of elected/ appointed officials, public information officers, attorneys, emergency managers, departments of public safety, public works, building, finance and planning/community development, community services, hospital and public health officials, chambers of commerce, the business community, voluntary organizations, school/university officials and neighborhood and citizen groups. Post-event, the task force would oversee the recovery, reconstruction, and replacement process, recommend restoration priorities, develop procedures to carry out build-back policies, develop policies for redeveloping areas with repeated disaster damage, promote mitigation, develop priorities for relocating and acquiring damaged property, develop recommendations for ordinances, moratoriums, regulations, and resolutions, coordinate an economic recovery program, develop recommendations for recovery and mitigation projects, participate in community redevelopment planning and identify funding sources for recovery and mitigation projects. Finally, the economic impact of the proposal would be sustained because the tourism industry would be supported by the resilient infrastructure and efficient disaster recovery of the community.

A co-benefit of Ohio's proposal is to strengthen the infrastructure in the target area in order to garner additional economic gains in the already established tourist area. By bolstering the economy of the target area, a stronger and more sustainable tax base will be established. This will bring needed revenue to local governments to

allow them to continue maintenance and resiliency of infrastructure. Small businesses will flourish bringing much needed employment opportunities to the area. The tourism in the area is sustained by the environment (hunting, biking/walking trails, boating/canoeing, etc.) and would be augmented through this proposal. Although a narrow target area for this proposal, the concept of strengthening infrastructure to make communities more resilient to disaster while also stimulating economic prosperity will be promoted in the region and all Appalachian areas of the state (to get additional information on the target area, please refer to Exhibit B).

The success of the proposal will be measured in several ways. Documentation of the repairs and resiliency of the infrastructure aspects will be maintained at the local level for future use. The success of the tourism industry is already evaluated and measured on a biennial basis.

Leverage Sub-factor - Ohio is partnering with the Ohio Emergency Management Agency (Ohio EMA), Ohio Environmental Protection Agency (EPA), Adams County Engineer (ACE), Adams Rural Electric Cooperative (ARE), Adams County EMA and the Adams County Regional Water District (ACRWD) in development and implementation of this proposal. Ohio has collaborated with private organizations in the development of our proposal and would investigate all possible funding sources for the implementation of our application should it be selected for Phase 2 development.

With the broad view of Ohio's proposal and the possible co-benefits among local, state and non-governmental organizations, there will be numerous opportunities for financial assistance. Building resilient infrastructure provides future cost savings in repairs and maintenance (roads), loss of income (cost in repetitive power

restoration) and reliable water sources (redundancy lessens cost of alternate sources such as bottled water distribution).

The Adams County Highway Department budget will be positively impacted by the project. Motor Vehicle Gas Tax (MVGT) funds that would be necessary to maintain the Waggoner Riffle Road area would be significantly reduced over the one hundred (100) year life of the embankment stabilization. Temporary stabilization and road restoration measures currently considered for the site are estimated at \$300,000 to \$400,000. The expected life span for this temporary stabilization would be on the order of three to five (3 – 5) years. The lowest savings projection would be \$6,000,000 in today's dollars over the life of the stabilization method being proposed.

Ohio has identified commitments that go beyond the MID-URN from several sources. First, the state of Ohio has an appendix to its State Hazard Mitigation Plan that addresses the threats and hazards to the state's Rural Electric Cooperative (REC). This appendix commits future hazard mitigation dollars for projects that address strengthening and redundancy of the RECs power distribution system. Additionally, the Ohio EPA compiles funding sources available each year from several state agencies to address water, wastewater and storm water issues statewide. Additionally, the Ohio Development Services Agency (ODSA) annually makes available Community Development Block Grant (CDBG) funds to strengthen infrastructure, local economies and address housing in Ohio's seventy-eight (78) Non-Entitlement counties.. Ohio's intent for this proposal is to develop it into a framework of infrastructure strengthening and economic development that can be expanded upon at the small level, regional or statewide level.

Exhibit G – Long-term Commitment

State of Ohio

ExhibitGLong-termCommitmentNarrative.pdf

Ohio had qualifying events in 2011, 2012 and 2013. In the target area in 2013, the Adams County Economic Community Development Office (ACECDO) completed a project to address flooding and access issues on Jaybird Road. Jaybird Road (County Road 18H) is the only paved access road that serves the General Electric-Peebles Test Operation (GE-PTO) facility (See Exhibit E, page 34 of this application, for additional information on this facility). Jaybird Road was built over a century ago when the area was primarily a farming community. The road has sections of narrow curving roadway and a dangerous S curve that pose safety hazards for GE-PTO traffic. Officials with GE-PTO require many large truck deliveries, especially trucks hauling jet fuel, to be made during safer, nighttime hours inconveniencing companies and drivers. They routinely have to manually stop traffic to allow oversize trucks hauling the new, larger engines to negotiate the narrow roadway and curve. Work completed by the ACECDO in 2013 included the straightening of the dangerous S curve in Jaybird Road, widening of the existing road from nine (9) foot lanes to eleven (11) foot lanes, adding six (6) foot wide aggregate shoulders, and installing an open drainage system of ditches with pipe culverts to handle occasional high water events from Jaybird Branch Creek.

Another resiliency project completed in the target area was a \$1,300,000 project completed in 2012 that included 73,000 linear feet of water line installation and the construction of a pump station. Partners included the Appalachian Regional Commission (ARC), the Ohio Valley Regional Development Commission (OVRDC) and Jefferson Township officials. In 2013, the Adams County Commissioners (ACC) administered a \$1,015,300 project that entailed construction of 44,800 linear feet of water line, a booster pump, and a water storage tank. Partners included the ARC, the OVRDC, Ohio Environmental Protection Agency (EPA), and the Adams County

Regional Water District (ACRWD). Both actions increased the resiliency in the target area and geography surrounding the target area. Finally, the Adams Rural Electric Cooperative (ARE) has identified in their annual work plan areas of their service area to strengthen through replacement of copper conductor with aluminum conductor steel reinforced (ACSR). All of these examples demonstrate local, regional and state commitments to long-term resiliency actions.

The Mitigation Branch of the Ohio EMA works to integrate hazard mitigation principles in a variety of ways to make Ohio communities more sustainable and citizens more resilient in the face of future disaster events. The work is implemented through projects and planning efforts to reduce the cost of damage caused by disasters and minimize the impact on citizens, businesses, and properties. The Mitigation Branch maintains the State's All Hazard Mitigation Plan, coordinates the State Hazard Mitigation Team (SHMT), is the state entity responsible for implementing the Federal Emergency Management Agency's (FEMA) hazard mitigation programs, and assists Ohio communities in their mitigation planning efforts. The SHMT was formed in 1997 as a result of the Ohio River flood and meets semi-annually and as needed by necessity of disasters. This interagency / inter-organizational team is chaired by the State Hazard Mitigation Officer (SHMO) and the core membership of the State Mitigation Team consists of representatives from the following entities: Ohio Development Services Agency (ODSA), the Ohio Department of Natural Resources (DNR), the Ohio Emergency Management Agency (Ohio EMA), the Emergency Management Association of Ohio (an association of local emergency managers) (EMAO), FEMA, the U.S. Army Corps of Engineers (USACE) and additional federal/state/local organization representatives as determined by the nature of a particular disaster event and/or grant program focus.

Utilizing data from the benefit cost analysis for each project funded in part by FEMA Hazard Mitigation Assistance grants, the state of Ohio estimates that the 1334 properties mitigated have resulted in over \$12 million in losses avoided. The state and local contribution to these projects exceeds \$54.5 million (see Appendix F in State Hazard Mitigation Plan). A summary of state programs that mitigate hazards and enhance resiliency statewide can be found in Section 3.3 of the state mitigation plan.

Actions taken already as a result of this competition are augmenting the efforts made over the past year in the development of the state's Recovery Strategies that address infrastructure, housing and economic functions following a disaster. In support of these strategies, recovery teams have been formed that include local, state and federal government agencies and non-governmental organizations. If this same effort is made at the local level through local recovery planning efforts, then Ohio's proposal should be feasible and effective at supporting recovery and resilience. All eight-eight (88) counties in Ohio already have local mitigation plans and this reinforces Ohio's existing focus on resilience.

A baseline and goal outcome measure for the Rural Electric Cooperatives (REC) is to reduce the number of line outages due to weather conditions. Measuring the success of this goal would be done by comparing damage from prior events to future events that have little to no impact. This measure has already been used to compare the event in 2004-2005 (DR-1580 severe winter storms, ice and flooding) to the events in 2008 (DR-1805 remnants of Hurricane Ike) and 2012 (DR-4077 severe storms qualifying event). DR-1580 resulted in over \$72 million in damage to eighteen (18) of Ohio's twenty five (25) RECs. Following that disaster, FEMA funded the replacement of older copper conductor with the more resilient ACSR. As a result, damage to the REC systems in 2008 and 2012 was greatly reduced, ten (10) RECs impacted for \$3.1 million and fourteen (14) RECs impacted for \$8.7 million respectively.

A baseline and goal outcome for measure for the Adams County Highway Department is to significantly reduce or eliminate future maintenance/repair costs along Waggoner Riffle and Ohio Brush Creek. This will be measured by realizing little or no future costs at the site(s). The cost/benefit of more permanent stabilization versus temporary maintenance measures is 0.57 (\$3.4 million in resilient repairs divided by \$6 million for temporary measures/future maintenance). There would be a return on investment within six to ten (6 – 10) years.

**Appendix I - Consultation Summary**

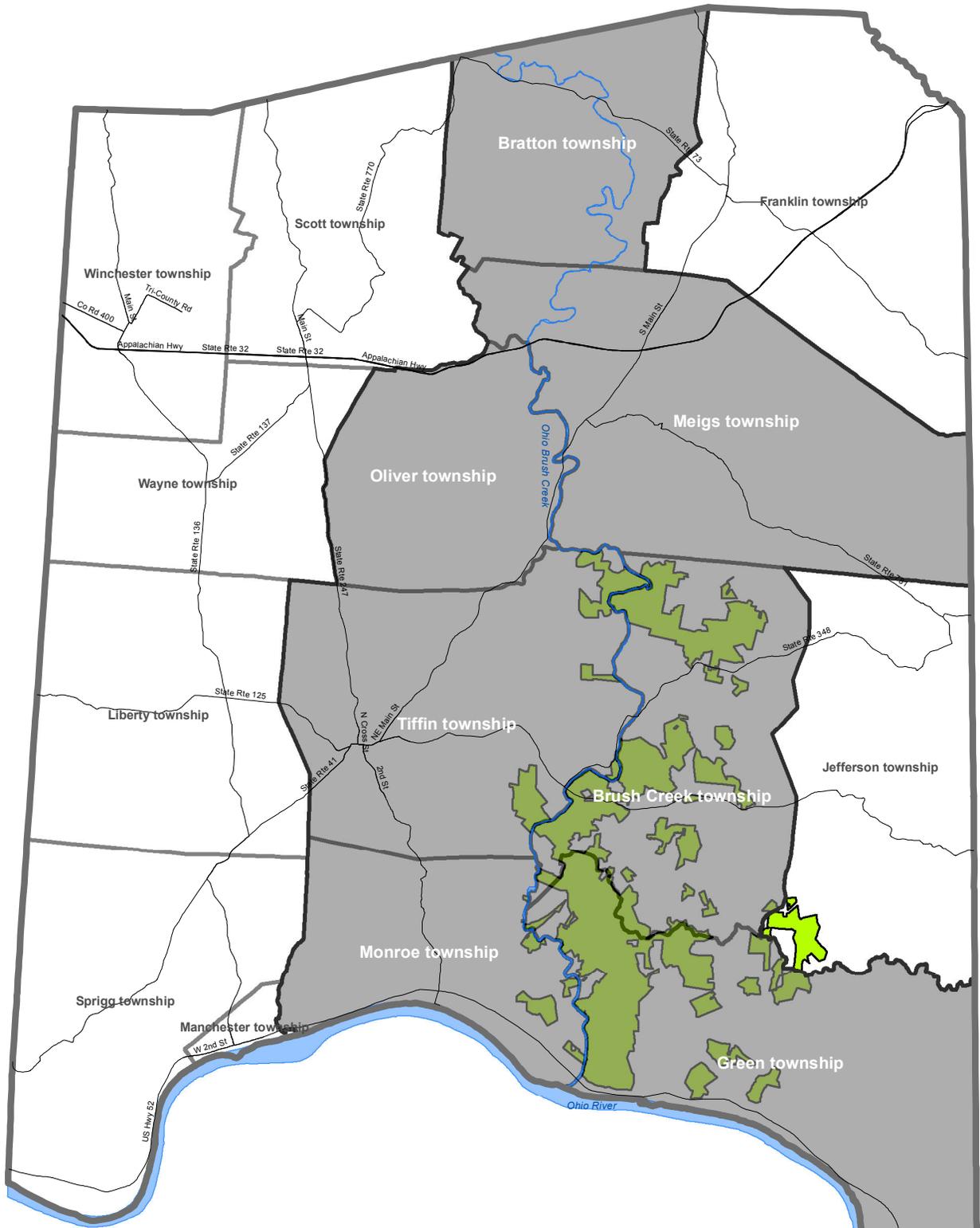
**Citizen Participation and Consultation Summary Chart**

1	2	3	4
<b>Agency Name or Stakeholder Group (if applicable)</b>	<b>Agency Type - Target Population (If applicable)</b>	<b>Type of Outreach</b>	<b>- Method of Notification (if applicable) - Materials Provided</b>
County residents	N/A - Residents of disaster- affected area	Public Meeting/Posting of application on Agency website	Posted meeting announcement on Agency website – provided sections of application as required by the NOFA
Ohio EMA	State Agency	Meeting/participation at Resiliency Academy	NOFA
Ohio DOT	State Agency	Meeting/proposal development	Presented overview of the NOFA
Ohio DNR	State Agency	Meeting/proposal development	Presented overview of the NOFA
Ohio EPA	State Agency	Meeting/proposal development	Presented overview of the NOFA
Ohio Dept. of Insurance	State Agency	Meeting/proposal development	Presented overview of the NOFA
Ohio Housing Finance Agency	State Agency	Meeting	Presented overview of the NOFA
Emergency Management Association of Ohio	Local association of emergency managers	Meeting	Presented overview of the NOFA

Appalachian Regional Commission	Commission	Emails	NOFA
Adams County Engineer	County department – 28,105	Meeting/participation at Resiliency Academy/ proposal development	NOFA
Adams County Commissioners	County department – 28,105	Meeting	Presented overview of the NOFA
Adams County Rural Electric	Private non-profit organization – approximately 7,500 customers in Adams, Brown, Highland, Pike and Scioto counties	Meeting/proposal development	Summary of NOFA and inquired about possible unmet needs
Adams County Economic Development Office	County department – 28,105	Meeting	Summary of NOFA
Adams County Emergency Management Agency	County department – 28,105	Meeting/proposal development	Summary of NOFA
Adams County Regional Water Authority	Authority - @ 18,000 residents in Adams County	Meeting/proposal development	Summary of NOFA
The Cincinnati Museum	Private organization- n/a	Meeting	Summary of NOFA
The Nature Conservancy	Private organization- n/a	Meeting	Summary of NOFA
Village of West Union	Municipality – 3,199	Phone/email	Provided information regarding the competition and inquired about possible unmet needs

Village of Winchester	Municipality – 1,040	Phone/email	Provided information regarding the competition and inquired about possible unmet needs
Village of Seaman	Municipality - 929	Phone/email	Provided information regarding the competition and inquired about possible unmet needs
Village of Manchester	Municipality – 1,984	Phone/email	Provided information regarding the competition and inquired about possible unmet needs
Village of Peebles	Municipality – 1,771	Phone/email	Provided information regarding the competition and inquired about possible unmet needs

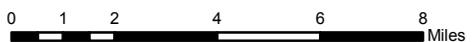
# NDRC Target Area



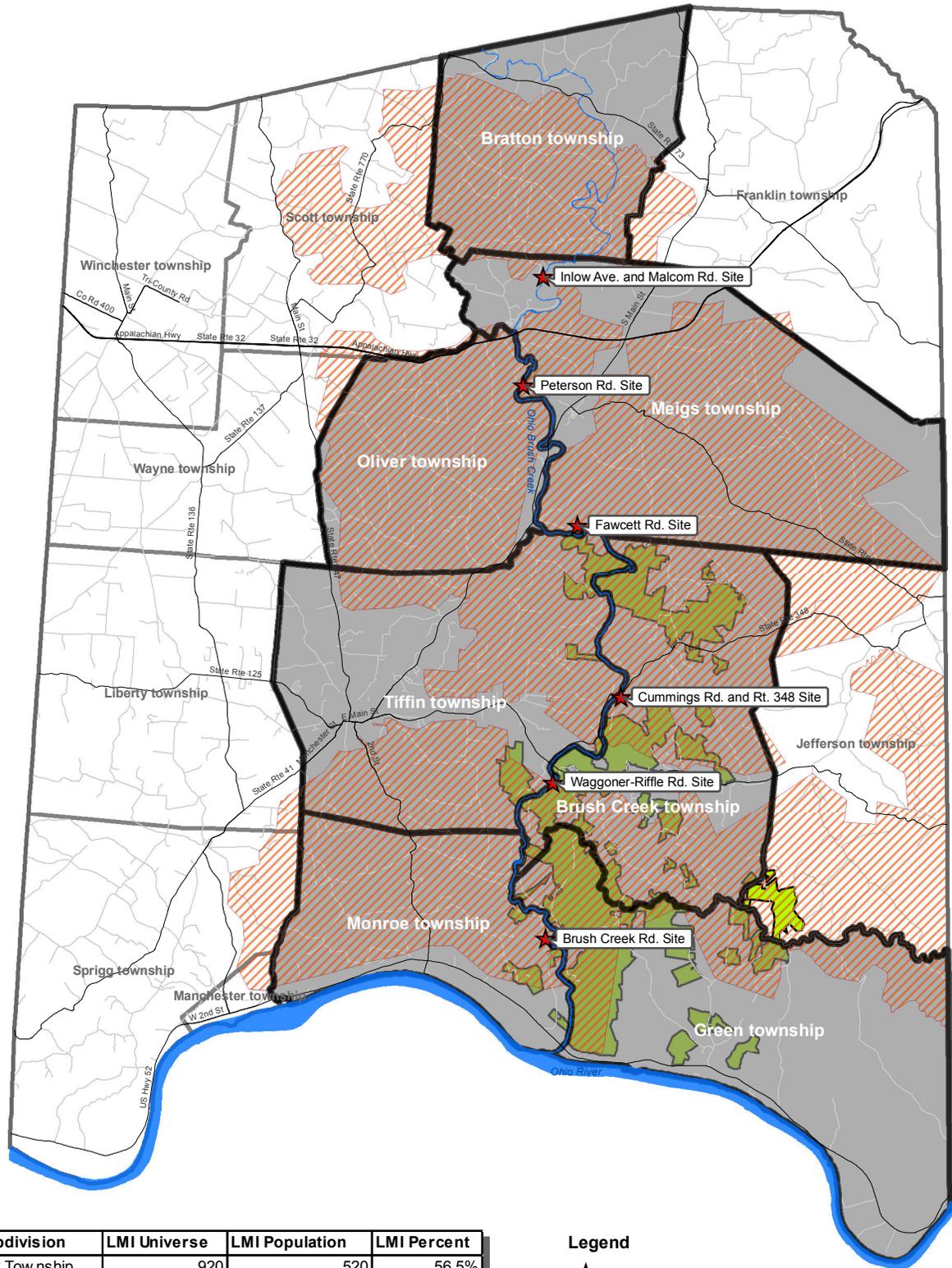
County Subdivision	LMI Universe	LMI Population	LMI Percent
Brush Creek Townshp	920	520	56.5%
Monroe Townshp	745	435	58.4%
Tiffin Townshp	5475	2640	48.2%
Green Townshp	635	390	61.4%
Oliver Townshp	1510	835	55.3%
Bratton Townshp	1420	645	45.4%
Meigs Townshp	3775	2310	61.2%
<b>Totals =</b>	<b>14480</b>	<b>7775</b>	<b>53.7%</b>

## Legend

- State Roads
- Targetted County Subdivisions
- Edge of Appalachia Nature Preserve



# NRDC Project Sites



County Subdivision	LMI Universe	LMI Population	LMI Percent
Brush Creek Township	920	520	56.5%
Monroe Township	745	435	58.4%
Tiffin Township	5475	2640	48.2%
Green Township	635	390	61.4%
Oliver Township	1510	835	55.3%
Bratton Township	1420	645	45.4%
Meigs Township	3775	2310	61.2%
<b>Totals =</b>	<b>14480</b>	<b>7775</b>	<b>53.7%</b>

## Legend

- ★ Project Sites
- Local Roads
- State Roads
- ▨ Adams Rural Electric
- ▭ Targetted County Subdivisions
- ▭ Edge of Appalachia Nature Preserve



Roadway Drainage & Ground Cover Enhancement

Adams Regional Water

HP Piling Embankment Stabilization

Cable Tie Block Embankment Stabilization & Roadway Restoration

Adams Rural Elec Powerline

CMO Eulett Center

# Waggoner Riffle Road MID-URN Site



Roadway Drainage & Ground Cover Enhancement

Adams Regional Water

HP Piling Embankment Stabilization

Cable Tie Block Embankment Stabilization & Roadway Restoration

Adams Rural Elec Powerline

CMO Eulett Center

# Waggoner Riffle Road MID-URN Site

