

## **DRA Strategic Planning Grant Narrative**

### **Your Organization's Name for this Project\***

The City of Carbondale Stormwater Master Plan

### **Type of Project Plan\***

Municipal Stormwater Plan

### **How long will this strategic plan take to complete? (choose 1-24 months)**

18 Months

### **PROJECT SERVICE AREA**

*Applicants are required to demonstrate that project activities will directly benefit economically distressed, isolated areas of distress, or persistent poverty counties/parishes. All applications will be evaluated based on the scoring criteria provided in the Request for Proposals.*

### **Project Area City(s)\***

The City of Carbondale, Illinois

### **Population(s) of Target Service Area\***

The Carbondale community is one of persistent poverty, defined by the U.S. Census Bureau as a community in which poverty rates have been 20% or greater for more than 30 years. The Carbondale community reported a 40.5% poverty rate in the 2020 Census. This high and persistent poverty rate can largely be attributed to the once profitable and prosperous family-sustaining coal industry's phase out of the Illinois Basin, which has left craterous economic and social gaps in our recovering energy communities.

Illinois Solar For All has identified Carbondale as having more than 50% of household's income eligible for services. Visualized in Carbondale, this appears as the Northwest, Northeast, Southeast, and Central portion of our community, coinciding with our currently identified floodplain. R3 Restore. Reinvest. Renew. has identified Carbondale as eligible service areas, visualized in Carbondale especially as our Northeast and Southeast neighborhoods. The Energy Transition Community Grant Program (CEJA) has identified and awarded the City of Carbondale funding due to our status as an economically distressed and recovering coal community.

The City of Carbondale recognizes that social and economic factors are putting our community members at disproportionate risk as we experience the detriments of the climate crisis. Folks in our region who live in floodplains and areas prone to severe storms are more vulnerable to the extreme weather we are experiencing and will continue to experience. The City of Carbondale recognizes that those of our community who are experiencing poverty and disenfranchisement are more likely to lack the financial resources and stability to respond to both seen and unforeseen catastrophic events, leading to inordinate harm. The City of Carbondale recognizes

that poverty and disenfranchisement in our community are felt disproportionately by folks of color.

The decennial 2020 Census of Population and Housing reported the City of Carbondale as having a population of 21,857 people (U.S. Census Bureau). Carbondale's municipal boundaries are displayed in Figure 2.

### **Strategic Plan Rationale\***

*Describe why the proposed strategic plan is necessary, your goals and objectives, and the specific impacts on the community(s) served by the proposed strategic plan. (7500)*

The Southern Illinois community of Carbondale lies within the Big Muddy River Watershed, a tributary to the Mississippi River. Our community has a rich history of advocacy surrounding the preservation and protection of our freshwater resources, ensuring we are regionally focused when pursuing water quality initiatives.

The Carbondale community has historically and contemporarily been subject to flash flooding and river flooding due to a combination of intense rainfall over a short period of time, steady rainfall over several days, and the poor drainage profile of our soil composition.

The Carbondale community recognizes that greenhouse gas (GHG) emissions from human activity are catalyzing profound climate changes, the consequences of which pose substantial risk to the future health, wellbeing, and prosperity of our community. One such profound change is the increased frequency, volume, and velocity of volatile stormwater events. Springtime precipitation is expected to increase in southern Illinois by 10-15% by 2050, with Illinois already experiencing dramatic increases in extreme precipitation events over the past two decades (Frankson, R.K. et al., Illinois State Climate Summary, NOAA Technical Report, 2017). According to the summary report of the Illinois Urban Flooding Awareness Act, 90 percent of insurance payouts for urban flooding in Illinois occurred outside of FEMA's mapped 100-year floodplain.

The impacts of this unprecedented flooding are already felt along key waterways in the City of Carbondale, including Piles Fork Creek, which is adjacent to many of our locally owned and operated small businesses. Localized flooding will lead to loss of revenue, degradation of structures and other impacts to businesses, non-profit buildings, and livelihoods in the community. The City of Carbondale's existing infrastructure, which has not been designed to withstand the increased frequency, velocity, and volume of climate change induced flooding is struggling to provide the water management necessary to protect our housing and building stock. More heavy downpours may increase the likelihood of property damage, travel delays, and disruption in services.

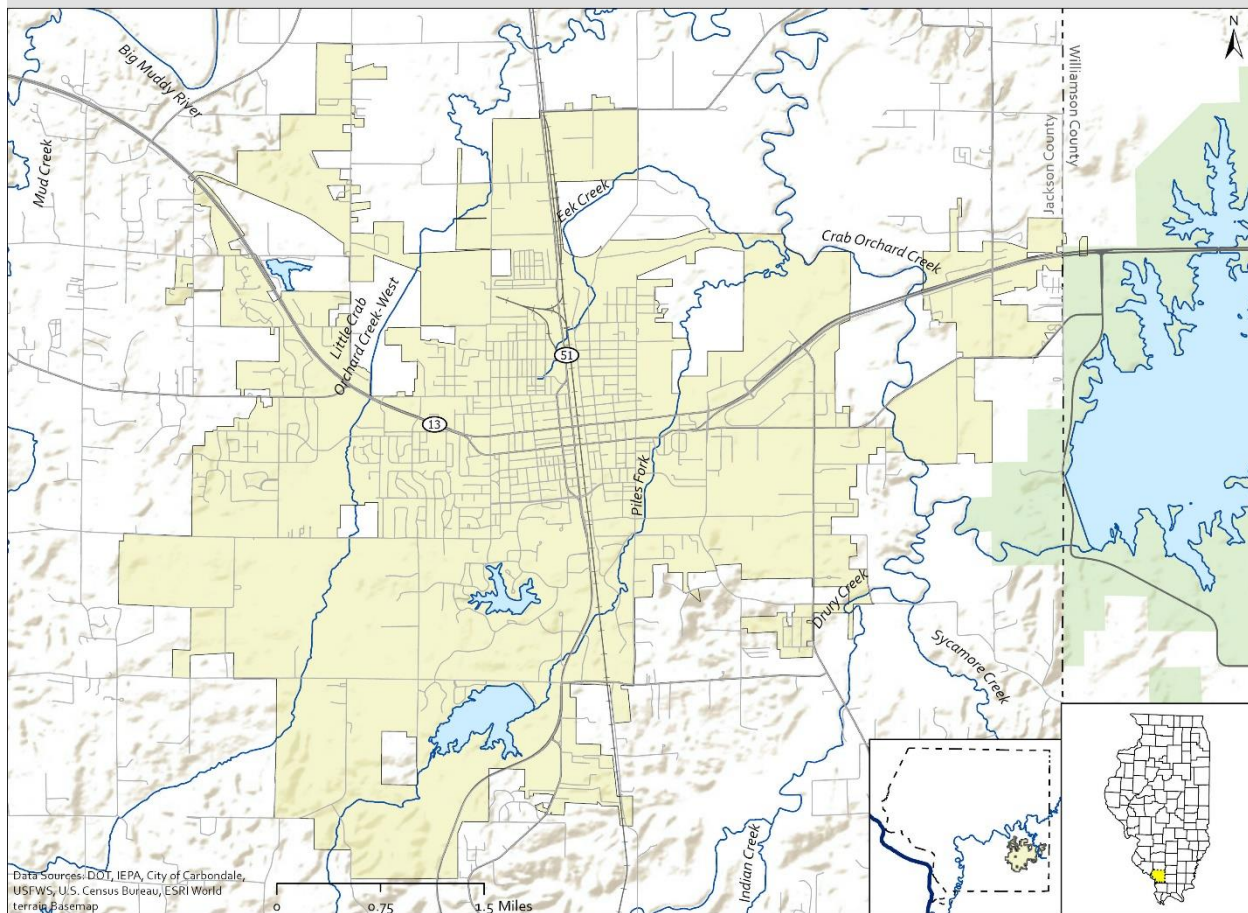
To compound flooding concerns, our region grapples with phosphorus waterbody impairment, predominantly due to the deterioration of best management practices in U.S. Agriculture

because of land-lease farming models. The City of Carbondale is committed to decreasing the presence and diversion of contaminants to our waterbodies by addressing both point and non-point pollution and has acted through collaboration with the Greater Egypt Regional Planning Commission to implement associated strategies.

Runoff and storm sewer overflow poses a greater risk to our watersheds and our community than ever before. At a national level, contaminated precipitation runoff can lead to excess nutrients in high volume waterways such as the Mississippi River, intensifying the effects of the Gulf Hypoxic Zone. This results in substantial cultural and economic loss to farmers, cities, and those that rely on these waterbodies for their livelihood. The Carbondale community recognizes that these impacts will be felt with disproportionate detriment on those who are already experiencing poverty and identity-based disenfranchisement. A stormwater master plan is the first step toward both mitigating and adapting to water and climate change.

While the City of Carbondale has been involved in watershed planning ([Western Crab Orchard Watershed-based Plan](#)), Nutrient Assessment Reduction Plan (NARP) development, and other water quality initiatives, the City of Carbondale does not have a stormwater master plan; a strategic design and decision-making document that predicts and prepares communities for the development and maintenance of comprehensive storm drainage systems. When implemented effectively, stormwater master planning allows city staff, regional entities, and the larger community to transform relatively “piecemeal” and grant-reliant infrastructure planning into a coordinated, forward-thinking, and comprehensive effort. It is for this reason that we apply for the Delta Regional Authority Strategic Planning Program.

## Carbondale Stormwater Master Plan - Project Area



Initial goals for the **Stormwater Management Plan** are as follows:

1. **Compile an inventory**, flood vulnerability score, and standardized inspection and reporting protocol for existing stormwater infrastructure
2. **Develop a strategy** for critical businesses, organizations, and landowners to mitigate flood property loss and value
3. **Develop a standard** for decision-making surrounding stormwater infrastructure maintenance and new construction to ensure the City of Carbondale is adapting to increased frequency, velocity, and volume of volatile stormwater events.
4. **Reduce stormwater runoff**, soil erosion, and associated pollution within the city
5. **Minimize stormwater runoff**, soil erosion, and associated pollution in any new development projects
6. **Maintain and restore stream channels** and floodplains when feasible, to retain biological function and ecosystem services
7. **Compile a list of recommendations including:**
  - a. Code/ordinance revisions
  - b. Current Infrastructure improvements

- c. Green Infrastructure and other Nature-based solutions
- d. Preventative maintenance strategies
- e. Hazard mitigation strategies
- f. List of potential grant programs
- g. Priority list of future projects

The Stormwater Management Plan would involve various stakeholders including businesses, landowners, and the citizens of Carbondale. With these groups involved, the planning process will be better suited to:

### **1. Reflect the City of Carbondale's Vision**

- a. Carbondale continues to be a forward-thinking leader surrounding water quality and nature-based solutions in Southern Illinois. By 2025, Carbondale will be recognized as a growing, welcoming, diverse, inclusive, distinctive, and innovative university community with a vibrant city center and attractive residential neighborhoods. The city will continue to provide high-quality services, demonstrate fiscal responsibility, and serve as an open, transparent government for its residents, and as a regional center for arts, entertainment, healthcare, employment, retail, and education.

### **2. Prioritize City Strategic Plans**

#### **a. Comprehensive Plan (2010)**

The most recent [City of Carbondale Comprehensive Plan](#) was adopted by City Council on June 22, 2010, following feedback from a 15-member Comprehensive Plan Review Committee consisting of residents from different parts of the community with diverse backgrounds, interests, and expertise. The Plan is designed to guide future development, redevelopment, and community enhancement in the City for the next 20 years and beyond. It sets realistic goals and achievable strategies for: Businesses, Civic Groups, Landowners, Major Institutions, Residents, and Members of Advisory Committees and Public Officials to refer to. The plan has a focus on community, which assisted in forming the document. In the area of Sustainability and Development, the plan recommends best management practices leading to a decrease in stormwater runoff, including but not limited to low impact developments (LID).

#### **b. Downtown Master Plan (2016)**

The [Downtown Carbondale Master Plan \(PDF\)](#), adopted on April 19, 2016, is the City's official guide for revitalizing Downtown Carbondale. The Master Plan, developed through extensive community outreach with the assistance of the

Downtown Advisory Committee (DAC), presents a community vision for the future of Downtown over the next ten years. It functions as a "road map," detailing a long-term vision and policy agenda for important issues such as: Beautification, Circulation, Land Use and Development, Parking, and Pedestrian Mobility. This plan characterizes the city's vision for its downtown for the next ten years. The document guides policy and revitalization of the downtown. The document encourages the implementation of sustainable stormwater management practices.

**c. Pavement Management Plan (2021)**

In 2018, the City of Carbondale began a pavement assessment of the City's street network and parking lots to create a pavement management program in order to plan for future street maintenance within the city. The goal of this program is to maximize the City's return on investment by creating a detailed database and inventory of the City's streets and parking lots and in conjunction with City staff, create an optimized budget for yearly street repairs. The goal of the [pavement management program](#) within Carbondale is to aid in the effort to assess the pavement and determine the most cost-effective way to maintain the City's street network and parking lots based on their given budget. Although the plan does not have a focus on stormwater, stormwater runoff is most destructive when traveling on impervious surfaces, which are the focus on this program. The city maintains 107 centerline miles of paved streets and 19 parking lots.

**d. Carbondale Community Sustainability Action Plan (2022)**

In February 2019, through listening sessions, consultations with community stakeholders, and revision by subject matter experts, members of the City of Carbondale Sustainability Commission began drafting the first [Carbondale Community Sustainability Action Plan \(SAP\)](#). In April 2022, the Carbondale City Council unanimously passed the Carbondale Community's Sustainability Action Plan, committing the Carbondale Community to carbon neutrality by 2050 and a 45% reduction by 2030. This constituent-written document is audacious, boldly communicating the future that our community desires. The SAP is broken down into four focus areas: Energy, Nature, People, and Process/Implementation. Within Focus Area 2: Nature, the SAP recommends significant attention be directed to conserving and protecting the health of bodies of water and groundwater resources as well as the facilitation of partnerships to develop climate change scenarios and assess/address vulnerabilities of the City and the Region. The SAP is supported by Criteria for Assessing City and Community

Priorities, Restorative Justice Frameworks, Distributive Justice Frameworks, and Procedural Justice Frameworks that outline how the plan will remain dynamic and ensure equity through implementation.

### **3. Identify Financial Needs and Potential Funding**

#### **a. Financial Needs**

The City of Carbondale will need to apply for grant funding to develop the Stormwater Master Plan.

#### **b. Funding Sources**

Funding sources could include a continued approach to grant applications (local/state/federal) within the city. A stormwater fee/incentive program based on parking area or something similar could be considered by the city.

Creation and implementation of the proposed Stormwater Master Plan would strengthen and insulate Carbondale community members from the water impacts of the climate crisis. The Stormwater Master Plan will lead to adaptation and mitigation measures necessary to foster a resilient community structurally, socially, and economically. Impacts from plan development will include but are not limited to:

- 1. Mitigation of Flood Damage** including loss of life, livelihood, infrastructure, property, and the environment
- 2. Reduction of Stormwater Runoff**, soil erosion, and associated pollution within the city and minimize impacts from development sites
- 3. Promotion of Best Management Practices** for land development
- 4. Improved Water Quality**
- 5. Development of an Organizational and Regulatory Framework** to be shared with fellow communities in Southern Illinois

### **Strategic Planning Collaboration\***

*Describe how the community engagement practices that you will deploy during the strategic planning process. Also describe how your strategic planning project will collaborate with public and private partners and the role(s) and responsibilities of each partner. Provide a letter of support or memorandum of understanding to demonstrate the extent of each partner's engagement with the proposed strategic plan.*

*Examples of collaboration are, but not limited to, faith-based organizations, private engineering firms, consultants forming focus groups, public entities, planning committees, business leaders, and community meetings (5000)*

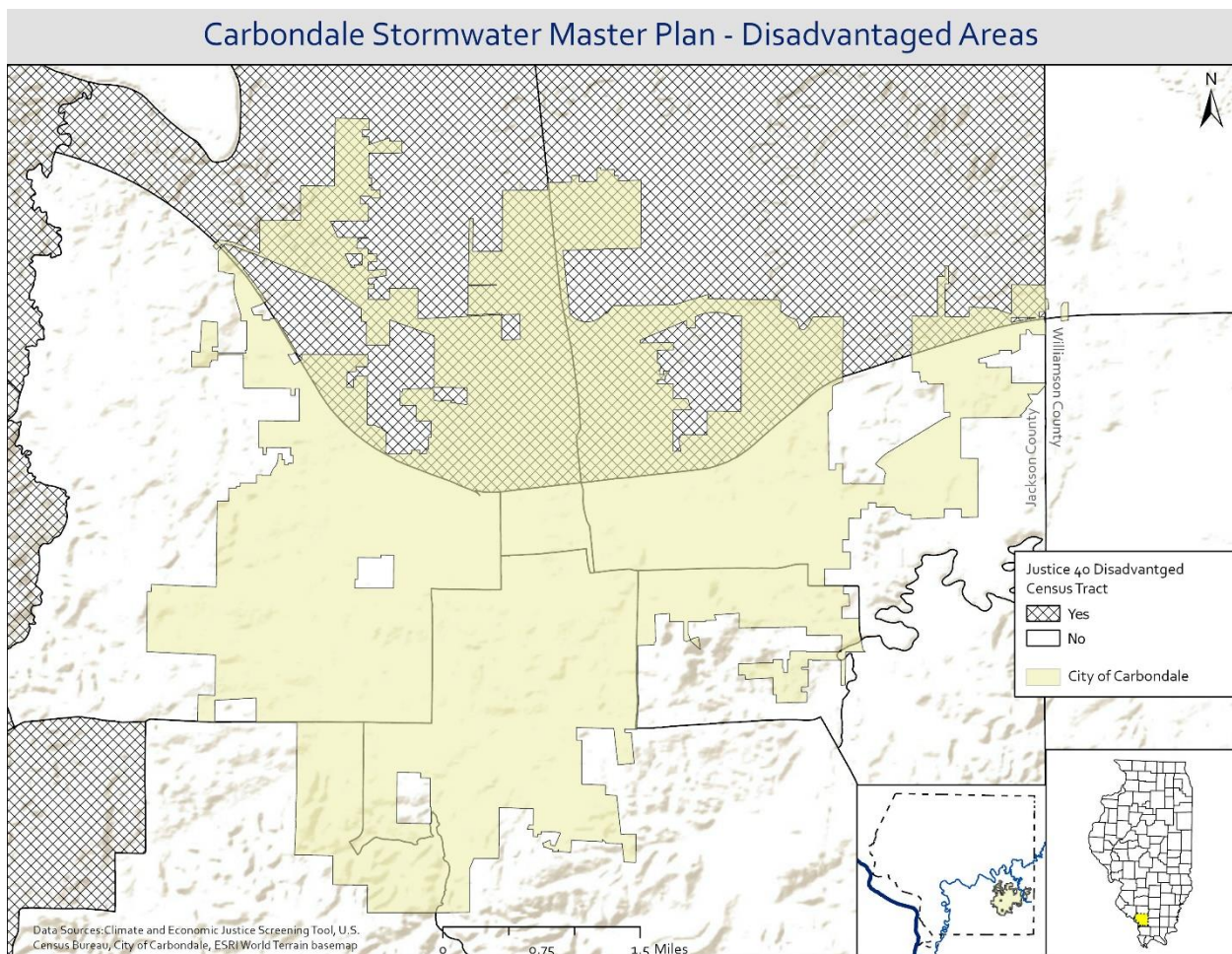
## Community Engagement

As with other local planning initiatives, a strong collaboration of diverse stakeholders will strengthen the plan's development. Public input will be taken into consideration at every step of the planning process.

A public announcement will be made available early to describe the planning process and potential opportunities for involvement.

An Advisory Committee will be established in the first few months of planning. This will involve local community leaders, businesses, and landowners. The group will provide input and progress plan development. Meetings will be held periodically.

Public meetings will also be held during the planning process. These meetings will gather input from the public through on-demand surveys and other exhibit style presentations. Focus will be given to areas of economic distress and persistent poverty. The map below displays the disadvantaged areas under the Justice 40 Initiative.





### **Demonstration of Alignment with Program Objectives\***

Identify and describe realistic and attainable outcomes that demonstrate alignment with the program objectives: (7500)

- *To help revitalize local and regional economies by providing economically distressed communities across the region access to planning resources that aid problem-solving.*

Identifying current stormwater capacity and assessing future needs will aid the City and local business owners

- *To enhance the resilience of underserved communities experiencing social and economic vulnerability such as high poverty rates, aging infrastructure, and economic downturns, and engage them in the planning process.*

The Plan will help to increase the City's resiliency to climate change and severe weather, as well as help to improve aging infrastructure by providing a detailed, priority ranked list of future needs.

- *To establish partnerships that reflect the collaborative nature of planning and problem-solving.*

There is an interest in the city to collaborate on stormwater planning and flood mitigation. This is evidenced by the support of local businesses and institutions. Letters of support have been attached to this application and represent:

- **City of Carbondale Chamber of Commerce**
- **Food Works**, a non-profit organization dedicated to creating a sustainable food economy in Southern Illinois
- **Green Earth, Inc.**, a 501(c)(3) not-for-profit land conservation organization in Carbondale, Illinois
- **Jackson County Health Department**
- **Keep Carbondale Beautiful**, initiates, plans, and directs cooperative efforts in litter control and recycling
- **Southern Illinois Healthcare Shawnee Preparedness and Response Coalition (SPARC)**, develop and maintain an integrated, diverse network of organizations in Southern Illinois in order to increase Planning, Mitigation, Response, Recovery and overall Resiliency in the event of a natural or man-made disaster.

## **Work Plan\***

*Describe the tasks necessary to complete the project including key personnel assigned, time period for completion, deliverables, and budget for each task. To be considered for full points, the applicant must provide a detailed work plan for the period of performance which may not exceed 24 months.*

*Download the **Project Work Plan, Deliverables, and Timeline** spreadsheet; then upload the completed spreadsheet. (5000)*

The tasks below represent the planning components of the stormwater master plan. Personnel are also listed. The initial planning partners will consist of Greater Egypt, City of Carbondale, Jackson County Highway Department, and the Advisory Committee. More partners are expected throughout the planning process. The timeline of all components is also displayed below.

### **1. Form Advisory Committee**

- a. The group will consist of City departments, businesses, organizations, etc.

### **2. Organize Resources**

- a. Greater Egypt and The City will gather all available data needed for the planning process. Information regarding previous planning initiatives, implementation, and outreach will be included in this phase. Any water quality data will be analyzed. Data requiring a FOIA request will be handled by Greater Egypt.

### **3. Assessment of Current Conditions**

- a. Inventory and maps of current conditions in the City that are affected by urban stormwater including: Existing infrastructure (roads, bridges, culverts, storm sewers, ditches), impervious surfaces, Water and sediment control basins, wetlands, streams, lakes, and an overview of existing City and County codes and ordinances related to stormwater management and flooding.

### **4. Water Quality/Hydraulic Modeling**

- a. Greater Egypt will conduct analyses to estimate various future conditions related to climate change and flooding. A water quality model(s) will be chosen early in the planning process to analyze current conditions of the stormwater system and how it can handle projected rainfall occurrences. Stormwater infrastructure will be identified with a flood vulnerability score. Additionally, high flood vulnerability areas of the city will be identified with a suitability score for green infrastructure projects, wetland or floodplain restoration, and other nature-based solutions. The city will contrast the high flood vulnerability areas with scheduled maintenance and infrastructure upgrades.

## **5. Plan Development**

- a. Greater Egypt will be responsible for writing the plan. This will be based on the previous components. The scope of work can be found in the supplemental materials section.

## **6. Meetings**

### **a. Advisory Committee**

Once the Advisory Committee is selected, meetings will take place at intervals decided on by the committee throughout the planning process. The Advisory Committee will guide the plan with input and recommendations.

### **b. Public Involvement**

Public meeting(s) will be held throughout the planning process to gather input and local knowledge about the stormwater impacts on the community. This will allow the community to recommend management measures as well. The public will be notified of any meetings or activities that occur during the planning process through traditional and non-traditional advertisement channels (i.e. City website, City notification system, Social media, and word of mouth)

## **7. Review Plan**

- a. All entities involved will have a period to review the draft plan. The draft plan will also be made publicly available for review. Another public meeting or exhibit will likely take place at the end of planning.

## **8. Finalize Plan**

- a. Following internal and any other state or federal review, the plan will be finalized with any comments or updates needed to fulfill the scope of work. Copies will be forwarded to DRA, IEPA, and other interested parties.

## **9. Implement Plan**

- a. Once the plan has been finalized and published, the City of Carbondale will implement the strategy. This could include applying for grant opportunities or assisting businesses with stormwater mitigation.



### Funding Information

Provide the total amount of funding being requested from DRA. To be considered for full points, the applicant must provide a detailed categorical budget narrative for the requested funds and describe how these costs align with the proposed strategic plan.

### Amount of Funds Requested from DRA\*

\$150,000

### Budget and Budget Narrative Alignment

Identify and describe budgetary items for the proposed project. Information included in the Budget and Budget Narrative must align with the Project Information and Work Plan. Each budget category must include a description of project relevant expenditures that align with the rest of the project narrative. If a budget category is not applicable and does not have funds allocated, enter \$0; and the associated budget narrative, enter N/A.

The following information describes the proposed budget for the City of Carbondale Stormwater Master Plan. This includes the duties outlined in the *Work Plan* section of this application.

### Contractual Services\*

150,000.00

### Contractual Services - Budget Narrative\* (1500)

The City of Carbondale, through an Intergovernmental Agreement, will work with the Greater Egypt Regional Planning and Development Commission (Greater Egypt) to develop the plan. Greater Egypt has a long history of assisting communities with water quality programs and planning. Since 1990, the agency has been one of two Areawide Water Quality Management Planning Agencies in the state through the Illinois Environmental Protection Agency's State Water Quality Management Plan. Through this designation, the agency is required to assist communities within the jurisdiction with water quality grants and administration.

The Environmental Planning Department is responsible for handling the agency's IEPA 604b Water Quality Management Planning Program including watershed-based planning and nonpoint source planning. The department also assists counties and communities with multi-hazard and solid waste planning.

Currently, the department has two staff, *GIS & Environmental Planning Director*, and *Environmental Planner*. Travel will primarily be Greater Egypt staff trips from Marion to Carbondale, IL. Most mileage will be attributed to the assessment portion of the planning process. This would include physical assessments within the entirety of Carbondale's city limits.

### Personnel\*

\$0.00

Personnel – Budget Narrative\*(2000)

Fringe Benefits\*

0.00

Fringe Benefits - Budget Narrative\* (1500)

Fringe benefits are calculated at 34.85%. Indirect costs are calculated at 46.81%.

Travel\*

0.00

Travel - Budget Narrative\* (1500)

Equipment\*

0.00

Equipment - Budget Narrative\* (1500)

No equipment is expected to be purchased with funding.

Supplies\*

0.00

Supplies - Budget Narrative\* (1500)

Other\*

0.00

Other - Budget Narrative\* (1500)