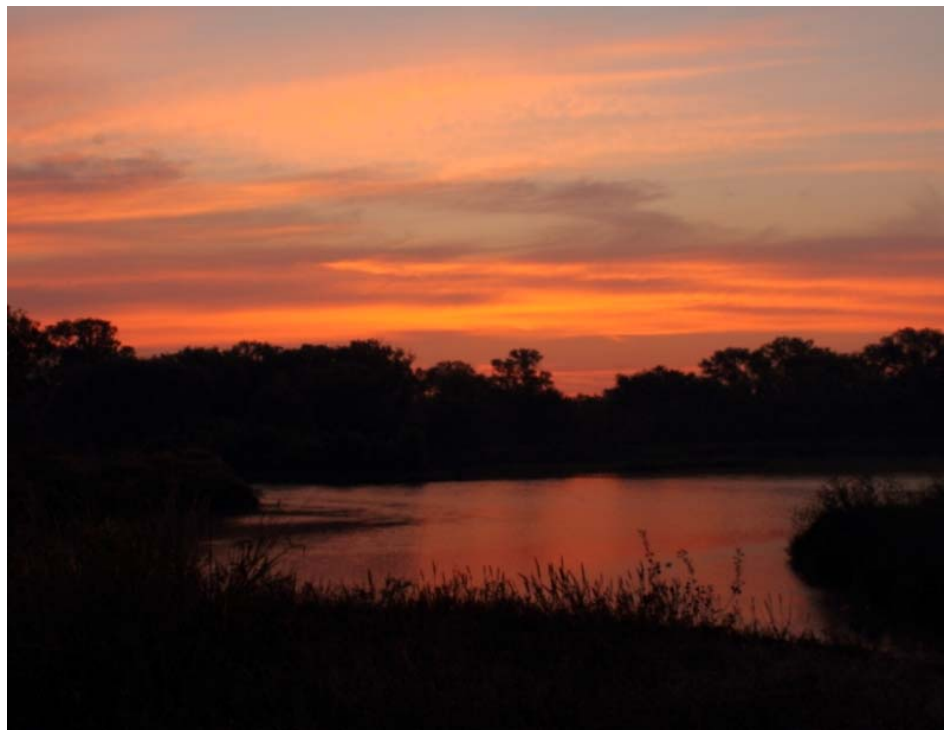


# GREEN CENTERPIECE MASTER STRATEGY



7/13/2016

A new focus for the Lewisville community

The Green Centerpiece Master Strategy presents the vision, goals and action steps of partners working to make Lewisville Lake, the Trinity River and related green lands the central focus of Lewisville.

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## WHAT IS THE GREEN CENTERPIECE?

The City of Lewisville was founded in 1925, and has grown to become one of the larger cities in an important urban region. In 2013, the Lewisville City Council began a process to create a new vision and plan for the community. The result, *Lewisville 2025*, was adopted unanimously by City Council in 2014. It describes Lewisville's vision for the community it hopes to be by the time of its 100<sup>th</sup> birthday in 2025. As a strategic plan, *Lewisville 2025* focuses on a small number of ideas that will make the most difference in shaping this future community. These are the nine Big Moves detailed in *Lewisville 2025*.

The first Big Move is the Green Centerpiece. This Big Move is summarized in Exhibit 1. Focusing on this natural area as a central part of Lewisville's identity is a notable shift from viewing these areas as simply exclusions from the city's urban fabric. With so many growing communities in the area, the Green Centerpiece offers Lewisville the opportunity to set itself apart.

This Green Centerpiece builds on the success of a long-standing partnership. The Lewisville Lake Environmental Learning Area (LLELA) includes 1,903 acres of land immediately below the Lewisville Lake dam. Since the 1990's, an agreement between the U.S. Army Corps of Engineers (COE), the University of North Texas (UNT), the Texas A&M Agri-Life Extension and the Lewisville Independent School District (LISD) has provided educational programs, outdoor activities, environmental management and restoration in this area. The programs at LLELA and at the adjacent Lewisville Independent School District Outdoor Learning Area (LISDOLA) have provided natural learning experiences to thousands of school children and other visitors. LLELA is essential to the vision of this Green Centerpiece for Lewisville.

The LLELA partnership agreement was modified in 2015 to remove the Texas A&M Agri-Life Extension. Also in 2015, the responsibility for LLELA's educational and recreational programs shifted from UNT to the City. The City of Lewisville was formally added to the LLELA lease in 2016. With these changes, the continuing success of LLELA can be leveraged to achieve the vision of a Green Centerpiece for the entire Lewisville community.

## WHERE IS THE GREEN CENTERPIECE?

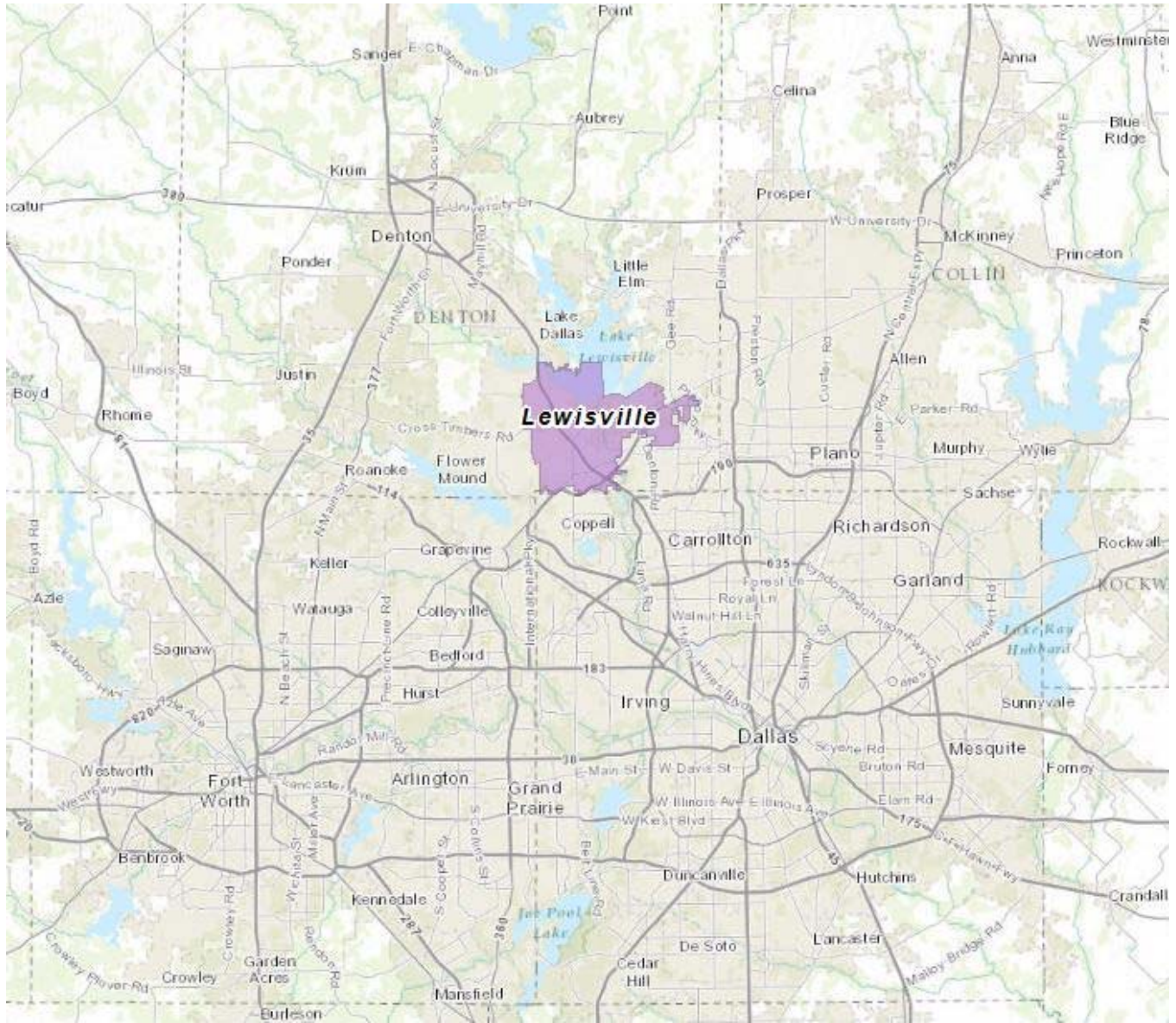
Lewisville and this Green Centerpiece are located in the northern part of the North Texas region (also known as the Dallas-Fort Worth Metroplex). This metropolitan area was home to 6.95 million people in 2014 and is the fourth-largest region in the United States. The region is one of the fastest-growing in the nation, and is projected to have 9.49 million residents by 2030 and 11.66 million residents by 2050. This rapid growth makes North Texas a very attractive region to people and businesses; it also creates pressure on the region's communities and natural environment.

The City of Lewisville is 36.4 square miles in size and had 102,283 residents in 2014. As Exhibit 2 shows, Lewisville is located on the southern edge of Lewisville Lake.

*Create a Green Centerpiece within the large natural floodplain area below the dam and along the Elm Fork of the Trinity River.*

- *Make Lewisville distinctive by focusing the community around a special Green Centerpiece.*
- *Take advantage of Lewisville Lake and its floodway to give Lewisville a natural open space and urban wilderness that can be part of everyday life for all Lewisville residents.*
- *Use this Green Centerpiece to position Lewisville as a unique community within the DFW Metroplex.*

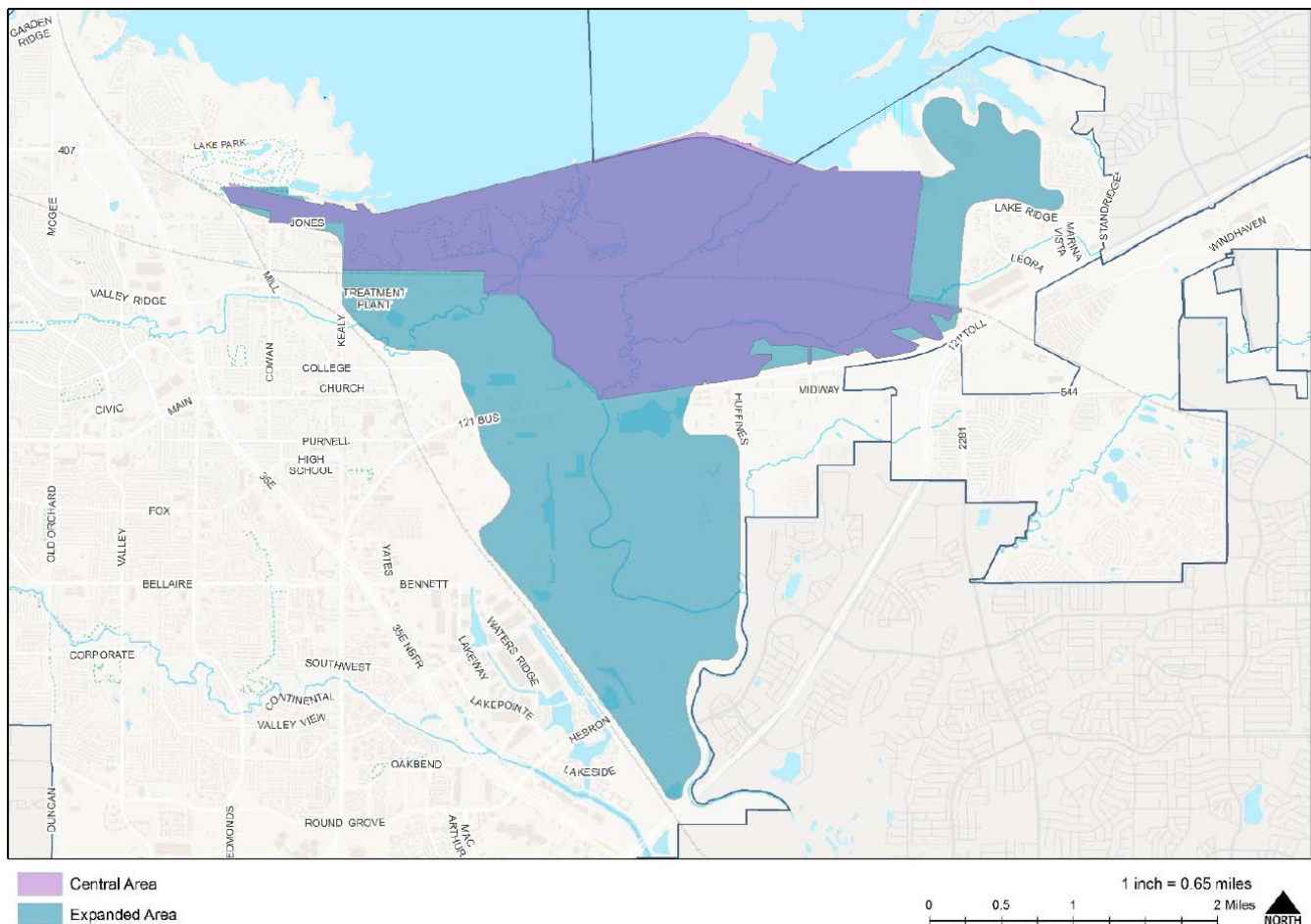
EXHIBIT 1: BIG MOVE #1



**EXHIBIT 2: LEWISVILLE AND THE NORTH TEXAS REGION**

As the name suggests, the Green Centerpiece is centrally located within the City. Exhibit 3 shows the area of the Green Centerpiece. The Central Area of the Green Centerpiece includes the land owned by the Corps of Engineers and operated by the LLELA partnership. The Expanded Area of the Green Centerpiece includes floodplain areas below the Lewisville Lake dam and along the Elm Fork of the Trinity River. Together, the Central and Expanded Areas form a Green Centerpiece of 6,726 acres. The Green Centerpiece includes 24.6% of the land within the current city limits of Lewisville – almost one-quarter of the community’s area! As *Lewisville 2025* states, “the vision for the Green Centerpiece is to promote and take advantage of this area as a public amenity”.

The first Action Priority for accomplishing this Big Move is to convene partners to create and implement a Master Strategy for the Green Centerpiece and surrounding areas. This document provides the Green Centerpiece Master Strategy envisioned in *Lewisville 2025*.



**EXHIBIT 3: THE GREEN CENTERPIECE**

## THE GREEN CENTERPIECE PARTNERSHIP

Creation of the Green Centerpiece described in this Master Strategy is not the work of any one individual or organization. It will be most successful if it achieved through the work of a partnership that brings a diverse range of resources and expertise to the effort. The Operating Partners that have worked together to develop this Master Strategy expect to continue this partnership for its implementation. These organizations are described briefly below.

### U. S. Army Corps of Engineers

The U.S. Army Corps of Engineers (COE) constructed the dam that created Lewisville Lake. It owns the land where the lake is located and land surrounding the lake. Its priorities are to manage the lake itself to provide water storage, flood protection, natural habitat and recreational opportunities. It manages the surrounding lands (those included in the LLELA lease) to benefit fish and wildlife and to retain the habitat on which these species depend.

### City of Lewisville

The City of Lewisville (City) is a general purpose government with a Council-Manager structure. Its policy direction is established by its City Council. The City administration carries out that policy by providing a range of facilities and programs to its residents, property owners and businesses. Through its Parks and Leisure Services Department, the City manages an extensive parks and recreation system that now includes the educational and recreational programs at LLELA. The City's planning and economic development responsibilities enable it to encourage desirable private development and to discourage uses that would be incompatible with this vision. The City's public information resources play a key role in communication and marketing of the Green Centerpiece.

### University of North Texas

The University of North Texas (UNT) is a public university based in Denton, Texas. Its Advanced Environmental Research Institute (AERI) conducts research in the Green Centerpiece area and on issues that are important to management and restoration of environmental resources. Its educational programs bring students to the Green Centerpiece as part of their university coursework.

### Lewisville Independent School District

The Lewisville Independent School District (LISD) serves over 52,000 students in thirteen communities including Lewisville. Its programs provide students from kindergarten through high school with the skills and knowledge they need to succeed throughout their lives. LISD has included environmental education in its programs for many years, including those offered at LLELA and those provided by LISD's own Lewisville Independent School District Outdoor Learning Area (LISDOLA), also located within the Green Centerpiece.

### Audubon Texas

Audubon Texas is part of the non-profit National Audubon Society. Its mission is to conserve and restore natural ecosystems. Audubon operates nature centers and programs nationwide, including two successful centers in the North Texas region – Trinity River Audubon Center in Dallas and the Dogwood Canyon Nature Center in Cedar Hill.

## Friends of LLELA

The Friends of LLELA (Friends) is a non-profit organization established to support the programs and the ecosystem of LLELA. Friends volunteer in a variety of roles, raise funds, and increase awareness of the assets LLELA offers.

## Other Stakeholders

Other organizations also play a role in the future of the Green Centerpiece. Their ideas and support are important to the completion of this Master Strategy, and their involvement will be vital to its implementation. These stakeholders include organizations, agencies and individuals such as:

- The Upper Trinity Regional Water District
- Lewisville homeowners and residents, particularly those in neighborhoods in or near the Green Centerpiece
- The operators of landfills in the Expanded Area (DFW Landfill, the Lewisville Landfill, Waste Management, Inc.)
- Garland Power and Light
- Kansas City Southern Railroad
- Lewisville Aquatic Ecosystem Research Facility (LAERF)
- Master naturalist and master gardener groups
- Recreational users with interests such as birding, hiking, canoeing, kayaking, hunting, fishing, and others
- Huffhines property holdings
- Businesses in the SH 121 Business District
- Other major property owners in or near the Green Centerpiece
- Residents of Castle Hills
- Denton County Transportation Authority
- Texas Parks and Wildlife Department
- Texas A&M Agri-Life Center
- Past and current funders of LLELA

## THE MASTER STRATEGY PROCESS

After adoption of *Lewisville 2025*, the City convened a group of Operating Partners in 2014 to begin discussion of a Green Centerpiece Master Strategy. Key aspects of this process include:

- Agreement on the appropriate roles and responsibilities for each Operating Partner, including a shift of responsibilities for LLELA environmental education programs and operations from UNT to the City of Lewisville.
- Collection of information and data about current programs and activities, as well as existing physical conditions in the area.
- Dialogue among partners to reach agreement on the issues and opportunities for the Green Centerpiece and on the vision and policy direction reflected in this Master Strategy.
- Engagement of the broader community of people interested in the future of LLELA, Lewisville and these natural assets, following agreement on this Master Strategy by the Operating Partners.

The Master Strategy process began with an initial Operating Partners meeting in January 2015. During the early part of 2015, the change in LLELA operations became a focus for discussion and short-term action. Resolution of those and other short-term issues continued during 2015. At the same time, the Partners completed an assessment of Strengths, Weaknesses, Opportunities and Threats for the Green Centerpiece and agreed on a vision and a set of guiding principles for the future of the overall Green Centerpiece and the two areas within it. A draft Master Strategy, with specific action steps, was developed in late 2015 and

early 2016. It has been refined through continuing discussion with the Operating Partners. This Master Strategy document is provided for consideration by the decision-making bodies of each Operating Partner. After its approval or adoption by the Partners, a larger group of stakeholders will be involved in implementing the Master Strategy.

## Collaboration During 2015

Each of the Operating Partners had previously established its own policies and programs related to this area. An important aspect of this Master Strategy is the coordination of these different plans into a single, shared agenda for action. This collaboration began with a consideration of the existing policy direction for each of the Operating Partners. Appendix 1 lists the major statements of direction for each Operating Partner.

The Operating Partners met several times during 2015 to share information and create a framework for the Green Centerpiece. Data and mapping developed by all partners was assembled by the City of Lewisville’s staff in a GIS database of geographically-based information. This sharing of information allowed the partners to determine which areas within the Green Centerpiece are appropriate for particular uses and activities. Appendix 2 summarizes the information collected during this effort.

The Operating Partners also conducted an assessment of issues and opportunities related to the Green Centerpiece. This assessment followed a traditional SWOT (strengths, weaknesses, opportunities and threats) analysis format as shown in Exhibit 4. The Central Area and Expanded Area are addressed separately.

	<b>Advantages (assets to build on)</b>	<b>Challenges (issues that may make success more difficult)</b>
<b>Internal (to the geographic area under discussion)</b>	Strengths (Central Area and Expanded Area)	Weaknesses (Central Area and Expanded Area)
<b>External (to the geographic area under discussion)</b>	Opportunities (Central Area and Expanded Area)	Threats (Central Area and Expanded Area)

**EXHIBIT 4: SWOT ANALYSIS STRUCTURE**

The key findings for this analysis are summarized in Exhibit 5. The complete assessment for each segment of the analysis is presented in Appendix 3.

Based on this analysis and discussion, the Operating Partners began creating a draft of the Master Strategy in late 2015. Participants from all Operating Partners provided their input on the Vision, Guiding Principles and key aspects of the Master Strategy. After general agreement on this direction, participants submitted recommendations for action steps to implement the strategy.

## SWOT Analysis Summary

		<b>Advantages (assets to build on)</b>	<b>Challenges (issues that may make success more difficult)</b>
<b>Internal (to the area)</b>	<b>Strengths – Central Area</b>	<ul style="list-style-type: none"> <li>• COE ownership and lease arrangements provide stability and protection of resources</li> <li>• UNT has strong research capabilities and a history of research projects on this property</li> <li>• Experienced staff and operational systems are available through the City</li> <li>• There is a cadre of volunteers who are committed to the area and its programs</li> </ul>	<b>Weaknesses – Central Area</b>
		<ul style="list-style-type: none"> <li>• Need for stable on-going financial support</li> <li>• Coordination of programs and activities</li> <li>• Need for a more sustainable long-term institutional structure (this has been addressed in part by changes made in 2015)</li> <li>• Potential for conflict between research and other activities</li> <li>• Lack of awareness</li> <li>• Facilities may not support desired research</li> </ul>	
	<b>Strengths – Expanded Area</b>	<ul style="list-style-type: none"> <li>• The City’s park system provides management expertise and connections from the Central Area to the community</li> <li>• Private investments (Pier 121 and Eagle Point Marina) offer existing water sport attractions</li> <li>• LISD programs (at LISDOLA and district-wide) introduce students to these environmental assets</li> <li>• DCTA stations make the areas available by public transportation</li> <li>• UNT’s university-wide resources provide expertise and resources</li> </ul>	<b>Weaknesses – Expanded Area</b>
		<ul style="list-style-type: none"> <li>• SH 121 is a barrier and intrusion</li> <li>• Decisions by individual property owners could result in incompatible uses and activities</li> <li>• Lack of a clear identity</li> <li>• Institutional issues of individual Operating Partners could interfere with collaborative implementation of vision</li> <li>• Resources for green business (labor force with appropriate education, incubator support for innovation, etc.) may slow economic development efforts</li> </ul>	

## SWOT Analysis Summary

		Advantages (assets to build on)	Challenges (issues that may make success more difficult)
<b>External (trends or changes outside the area that affect its future)</b>	Opportunities – Central Area		Threats – Central Area
		<ul style="list-style-type: none"> <li>• Location of a valuable natural ecosystem within a major metropolitan area</li> <li>• DFW Airport, simplifying access from national and international locations for researchers, visitors and businesses</li> <li>• Increasing interest in the environment on the part of residents, including parents of LISD students</li> <li>• The vision for this Central Area is consistent with, and integral to, the objectives of the City, UNT, LISD and Audubon Texas</li> <li>• Programs here can supplement existing regional activities (including the Wounded Warrior programs, the Perot and Heard Museums)</li> </ul>	<ul style="list-style-type: none"> <li>• Inability to maintain partnership and support over time</li> <li>• Change in the area’s natural resources – or access to them – due to COE policies, overuse, security threats, more extreme weather events or other external changes</li> <li>• Lack of funding for desired research projects</li> <li>• Aging infrastructure</li> </ul>
	Opportunities – Expanded Area		Threats – Expanded Area
		<ul style="list-style-type: none"> <li>• Since it’s not fully developed yet, the best practices for green infrastructure can be used</li> <li>• The Green Centerpiece concept can help keep existing neighborhoods desirable</li> <li>• It provides a laboratory for urban application of the research underway in the natural areas</li> <li>• Close to major employment centers in a rapidly-growing and economically diverse region</li> <li>• Potential to gain support from businesses locating in or near this area</li> <li>• Potential to be a visible ‘success story’ for urban nature, water reuse, restoration of landfills and integration of urban and natural areas</li> </ul>	<ul style="list-style-type: none"> <li>• Decline in private investment if the natural areas (such as floodplains) are perceived negatively</li> <li>• Competition from business areas and neighborhoods in other parts of the region</li> <li>• Development in surrounding areas could impact the natural assets, thereby reducing the appeal of the Expanded Area to residents and businesses</li> <li>• UNT becoming less accessible to students due to debt, costs and college-readiness</li> <li>• Change in priorities of Operating Partners</li> </ul>

**EXHIBIT 5: SWOT ANALYSIS SUMMARY**

## Collaboration During 2016

An initial draft of the Master Strategy, including 86 potential action items, was reviewed by the Operating Partners in January 2016. Discussion by partners began to refine and prioritize these action items. At an Operating Partners meeting in February 2016, the action items were assigned to committees for detailed review. The committees were:

- Communications and Marketing, chaired by James Kunke, City of Lewisville;
- Education and Programs, chaired by Craig Martin, Lewisville Independent School District;
- Infrastructure, chaired by Bob Monaghan, City of Lewisville; and
- Research, chaired by Sam Atkinson, University of North Texas.

The results of the Committee's work were assembled by the project's consultant and the draft Master Strategy was updated. The Operating Partners met again in April 2016 to further refine the overall strategy and the action items. A new draft, reflecting the results of that discussion, was provided to Operating Partners in June 2016, and the comments received have been incorporated in this document. As a result, this Master Strategy reflects discussion and agreement among Operating Partners through July 2016.

## ISSUES AND OPPORTUNITIES

The Operating Partners are united in the belief that the Green Centerpiece area holds many opportunities to enhance the Lewisville community and enrich the lives of the people who live and work here. The Green Centerpiece has the potential to be an important laboratory for learning and practicing good stewardship of natural and environmental resources in the midst of a major urban area. The Green Centerpiece can also become an attraction for sustainable economic growth by creating unique locations and incentives for companies whose business models or employees emphasize environmental quality and sustainability.

This Green Centerpiece builds upon the past successes of LLELA and the Operating Partners. But it requires clear action to address a number of important issues. This Master Strategy is designed to serve as the game plan for coordinated action by the Operating Partners and others, to fully achieve the Green Centerpiece's potential.

The Operating Partners' discussions about the vision for this important area repeatedly returned to the importance of seven key issues. Without clearly addressing these issues, the Green Centerpiece may not achieve its potential or sustain its success. This Master Strategy addresses these issues and provides the direction achieve the full potential of the Green Centerpiece.

1. The foundation of the Green Centerpiece is the unique natural asset that exists within this area. The plans and projects to carry out the Green Centerpiece vision must protect or enhance the natural ecosystems that are at its heart.
2. The multiple uses and activities envisioned for the Green Centerpiece must be compatible with one another. Decisions are needed about the appropriate locations for specific activities, so compatible uses can be located together and uses that might compete or conflict with one another must be located to minimize conflicts.
3. An institutional structure must be created that will provide long-term coordination, management and oversight of the Green Centerpiece.
4. Financial resources must be secured so the operation of this institutional structure and the various Green Centerpiece programs and activities can continue sustainably over time.
5. A Nature Center could play a vital role in attracting students, visitors, research and support for the Green Centerpiece. Critical decisions must be made about where a Center could be located, what organization would operate it, how it would be funded and what programs it would offer.
6. People and businesses in Lewisville must become much more aware of the resources offered by the Green Centerpiece, so they will make it a part of their everyday lives and their experience of Lewisville.
7. The larger North Texas region can also benefit from the Green Centerpiece. Communications and marketing are needed to increase awareness of this area and to attract new businesses, future residents and visitors from other states and nations.

## A VISION FOR LEWISVILLE'S NEW CENTERPIECE

A Vision Statement describes the future that is desired by a community or organization. It is an aspirational statement, not describing the current situation but instead creating an image of the future participants believe is most desirable. Specific principles, policies, decisions and action steps should move the community or organization toward the desired future described in the Vision Statement. For the Green Centerpiece, the Operating Partners have developed the Vision Statement presented in Exhibit 6 below. It describes the future they hope to achieve for this central part of the Lewisville community.



**EXHIBIT 6: GREEN CENTERPIECE VISION STATEMENT**

This Vision will be realized by the policies, programs and investments of all partners. All of the Operating Partners must be active participants and contribute their resources and expertise if this vision is to be achieved. Other stakeholders also can assist in achieving this vision. This Master Strategy helps all participants contribute effectively because it provides:

- A vision describing the outcome all partners want to achieve;
- A set of guiding principles that each partner can use to ensure that its decisions will support this desired outcome;
- Action steps that clearly spell out the responsibilities of each partner and the expected results of these actions; and
- A process for tracking progress and making changes to the Master Strategy over time.

## GUIDING PRINCIPLES FOR THE GREEN CENTERPIECE

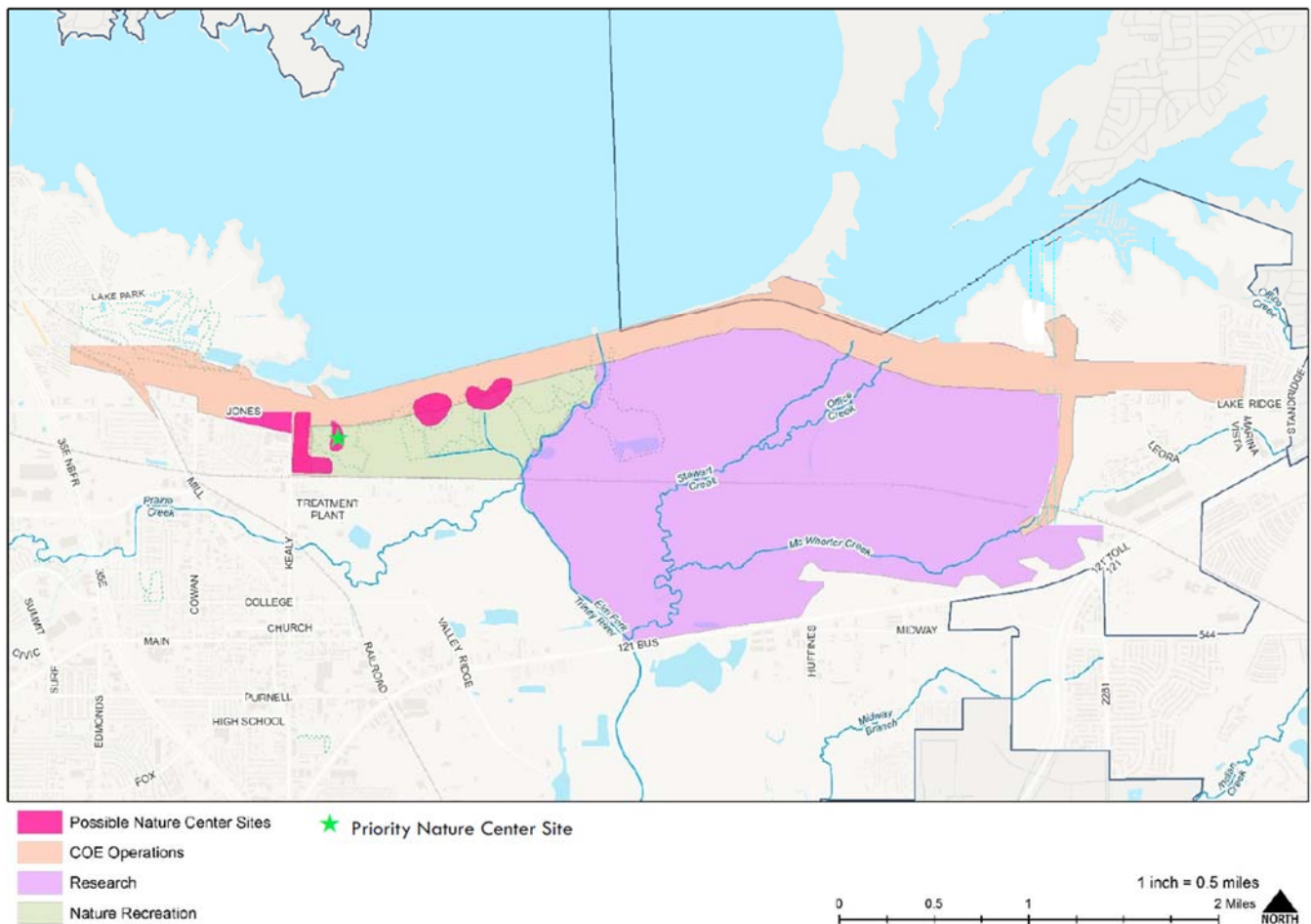
The Operating Partners agree to use a shared set of Guiding Principles as the basis for their decisions and actions affecting this Green Centerpiece area. Guiding Principles provide direction for decision-makers so their individual choices and investments help to realize the community's desired future as expressed in the Vision Statement. Since this Green Centerpiece Master Strategy is a shared policy document, its acceptance by the leadership of each Operating Partner will mean that each organization agrees to make its own decisions in a way that helps achieve this vision.

The Green Centerpiece Guiding Principles are listed below. Each principle is phrased as a statement.

### Overall Green Centerpiece Guiding Principles

1. Decisions on uses, activities, infrastructure and other investments throughout the Green Centerpiece area will be made so they strengthen the environmental assets of the Central Area and enhance the desirability of the Expanded Area.

2. Uses, facilities and activities within the Green Centerpiece will be structured so their impacts do not exceed the carrying capacity of the Green Centerpiece’s natural systems or threaten the vitality of its ecology.
3. A Nature Center will provide the major destination for environmental education, research and recreation within the Green Centerpiece. For the purposes of this Master Strategy, the Nature Center is assumed to be a \$20 million facility operated by Audubon Texas on behalf of the funding partners.
4. Within the Green Centerpiece, geographic areas will be defined according to their primary activities. These areas and activities are:
  - a. Within the Central Area, the map on the next page shows:
    - i. Areas generally east of the Trinity River should be primarily focused on research activities (although some research also occurs west of the river).
    - ii. Areas generally west of the Trinity River (but including the Bittern Marsh east of the river) should include education and nature recreational activities.
    - iii. A primary and several secondary potential locations for the Nature Center are also identified.
  - b. Within and adjacent to the Expanded Area:
    - i. Development patterns include parks and open space corridors, residential neighborhoods, employment centers and areas for mixed use development.
    - ii. The uses and activities in these areas should support the Central Area and should extend its natural amenities to connect with the greater Lewisville community.



**EXHIBIT 7: PRIMARY ACTIVITY AREAS WITHIN THE GREEN CENTERPIECE**

5. On-going communications and specific events will provide Lewisville residents with everyday interaction with the Green Centerpiece and Lewisville’s natural setting, helping them develop a sense of ownership of these natural resources. They also will introduce Lewisville to regional, national and international visitors.
6. Lewisville’s Green Centerpiece initiatives will serve as the basis for collaborations with other North Texas communities with similar initiatives and as the foundation of Lewisville’s regional leadership on environmental and sustainability issues.

## Central Area Guiding Principles

5. **Fish and Wildlife Management.** Lewisville Lake and the Central Area of the Green Centerpiece provide important habitat for plants and wildlife. The quality of this habitat is maintained or enhanced over time through the actions of the U.S. Army Corps Engineers and other partners:
  - a. Lewisville Lake is managed to provide water storage, flood protection, natural habitat and recreational opportunities.
  - b. The LLELA area is managed to benefit fish and wildlife and to retain the habitat on which these species depend.

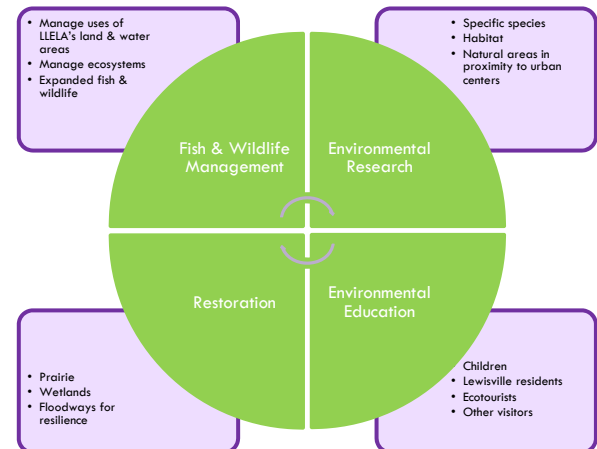


EXHIBIT 8: PRINCIPLES FOR THE CENTRAL AREA

7. **Environmental Research.** Future research studies will extend and build upon past research successes. Research in the Central Area, conducted by UNT’s Advanced Environmental Research Institute (AERI) will:
  - a. Advance our basic understanding of the complexities of the natural world.
  - b. Develop knowledge for the solution of environmental problems.
  - c. Form an understanding of how people learn about ecological and environmental science.
  - d. Train the next generation of environmental professionals capable of addressing and solving local, regional, national and international environmental problems.
  - e. Provide special focus on key species and on the issues of natural areas in close proximity to growing metropolitan areas.
8. **Environmental Education.** The Central Area of the Green Centerpiece will offer educational opportunities to people of all ages. Education and training programs will be carried out by a collaboration between the City of Lewisville, the University of North Texas, the Lewisville Independent School District and Audubon Texas. These programs will give people opportunities to:
  - a. Interact with native Texas ecosystems and reconnect with the natural heritage of Lewisville and North Texas.
  - b. Experience a flexible, safe, nurturing and inclusive environment.
  - c. Learn about this ecosystem in a way that is appropriate to each learner’s interests and skills, whether that learner is a child, local resident, ecotourist or other visitor.
  - d. Improve physical, mental and emotional health through experiences in an urban wilderness.
  - e. Understand and value natural systems so they will choose to preserve and improve them.
  - f. Feel empowered to address global environmental issues as a result of local action that positively impacts the local environment.

- g. Visit facilities and use a range of tools and techniques to experience and learn about the natural world, from “hands-on” projects to technology that enables global collaboration.
  - h. Contribute to “citizen science” initiatives that expand learning about local and global ecosystems.
9. **Restoration.** Restoration of natural areas will enhance native Texas ecosystems and the North Texas metropolitan area because it:
- a. Recreates the ecology and experience of the area’s native prairies.
  - b. Restores forested and emergent wetland areas along streams and lake edges.
  - c. Redesigns the Trinity River floodway to increase resilience and reduce community impact from droughts, floods and other extreme weather events.

## Expanded Area Guiding Principles

11. **Land Use and Infrastructure Investment.** Public and private investments in and around the Expanded Area will enjoy distinctive assets that set them apart from investments in other parts of Lewisville and the North Texas region:

- a. Land uses and development patterns will be compatible with the ecosystems of the Central Area and will use the Central Area assets as the basis for distinctive and lasting character.
- b. The Expanded Area will be used to demonstrate the best current practices for water conservation, ‘grey water’ reuse, stream and pond water management and groundwater recharge.
- c. Design standards will be established for private uses in and around the Expanded Area. They will incorporate current green building and landscaping practices, benefit from the Central Area as an amenity, reduce impacts on environmental resources, and provide linkages between development and the Green Centerpiece Central Area.
- d. Public infrastructure (such as roads, trails, water and sewer systems) will be designed, constructed and operated according to current best practices for green infrastructure.
- e. The design of the SH 121 transportation improvements in the Green Centerpiece Expanded Area will demonstrate Lewisville’s use of green design and inform people using this thoroughfare that they are in a special area with unique natural features.
- f. Public art at key Green Centerpiece locations and facilities will reflect Lewisville’s natural setting, history and aspirations for the future.

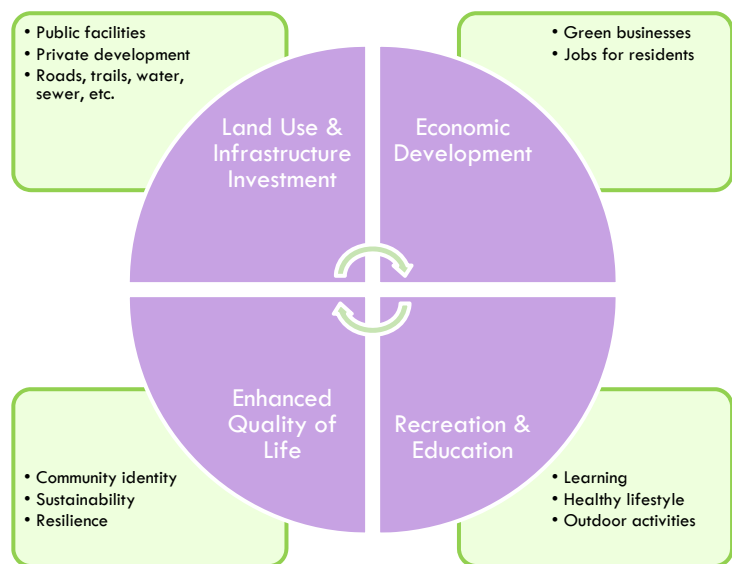


EXHIBIT 9: PRINCIPLES FOR THE EXPANDED AREA

12. **Economic Development.** In and around the Expanded Area of the Green Centerpiece, Lewisville residents and businesses will find opportunities for long-lasting jobs and business growth that also support the City's fiscal sustainability:
- a. Development in and around the Expanded Area will play an important role in defining Lewisville's identity. A Northern Gateway Identity Focal Point will communicate to travelers on IH-35 that they are entering a community with a focus on its natural setting and leadership in sustainability.
  - b. Lake Park will be an important Green Centerpiece destination for visitors and Lewisville residents. It will offer water recreation and other activities that benefit from the Central Area but require more extensive change to the natural ecosystem than is appropriate in the Central Area.
  - c. The Expanded Area and its surroundings will provide business locations for companies that value a green, natural setting and design. Economic development policies and incentives will support green businesses and sustainable design.
  - d. Future use and closure plans for the landfill sites in the Expanded Area will create environmentally-desirable sites for recreation and compatible business activities.
13. **Recreation and Education.** The environmental education offered in the Central Area will extend into the Expanded Area, where it will be joined by additional recreational options and connected to the rest of Lewisville in many ways:
- a. Trails in the Expanded Area will connect to the Central Area, throughout the Lewisville community and to the rest of the North Texas region. Trails will be designed to be appropriate to their context and to exemplify Lewisville's leadership in green design. Appropriate trails will be included for people walking, biking, canoeing or kayaking. Trails will enable residents and visitors to enjoy quiet experiences with nature, exercise and fitness, as well as the experience of the natural world during daily travel from place to place.
  - b. The environmental experiences and education found in the Expanded Area will extend to the entire Lewisville parks system and its facilities throughout the community.
  - c. The environmental educational collaboration between UNT and LISD will extend to the entire LISD system and will offer scholarships, research projects, college-level courses and other programs that help LISD students pursue careers related to the environment.
  - d. Recreational experiences available in and around the Expanded Area will complement the natural ecosystem found in the Central Area and provide additional activity choices (such as dining, lodging and boating) for people visiting the Central Area from other parts of the U.S. and the world.
14. **Enhanced Quality of Life.** Lewisville's identity as a community will be shaped by the Green Centerpiece:
- a. The Green Centerpiece will contribute to Lewisville's reputation as a community with a high quality of life that remains desirable over time.
  - b. Lewisville's branding will incorporate this natural focus.
  - c. Communications and marketing initiatives will use the Green Centerpiece, its activities and facilities as a central focal point for bringing new residents, businesses, researchers and visitors to Lewisville.
  - d. Lewisville's Green Centerpiece will be easily accessible to residents and visitors because each Lewisville DCTA station will have a convenient, clearly-marked and inviting connection to the Green Centerpiece.

## ACTION ITEMS TO CREATE THE GREEN CENTERPIECE

The table below lists the 75 Action Items identified for implementation of this Master Strategy. The table also includes the proposed timing of action on each item. After this table, detailed charts provide more information on each Action Item. These charts provide the initial guidance for all partners involved in implementation. They contain the following pieces of information.

### Information on Action Items

#### Action Item Number and Name

Each Action Item describes a specific step to be taken to achieve the goals of this Master Strategy. Each item is numbered, and has a short name for quick reference.

#### Geographic Area

The geographic area that is the focus of the action item is noted. These are:

- Green Centerpiece – the entire Green Centerpiece, including both the Central and the Expanded areas;
- Central Area – the area of the LLELA property; and
- Expanded Area – the area of floodplain around the Central Area.

#### Timing

Some of these action items should be implemented immediately, while others may take additional time.

1. Highest priority – should begin in the adoption year – 2016 (Fiscal Year 2015-2016).
2. Short-Term is years 1 to 3 (FY 2016-2017 through FY 2018-2019).
3. Mid-Term is in years 4 to 9 (FY 2019-2020 through FY 2024-2025).
4. On-going is an activity that must become a continuing part of Operating Partner practices & operations

#### Cost to Operating Partners

The cost is presented symbolically to represent order of magnitude. These are initial estimates only.

\$ reflects an action by one or more Operating Partners, but a minor cost up to approximately \$50,000.

\$\$ represents projects like urban design studies or research projects with a cost up to approximately \$250,000.

\$\$\$ represents projects like land acquisition or construction with approximate costs between \$250,000 and \$1 million.

\$\$\$\$ represents major projects with approximate costs over \$1 million.

#### Lead Entity

The entity that will lead completion of the strategy – the U.S. Army Corps of Engineers (COE), City of Lewisville (City), University of North Texas (UNT), Lewisville Independent School District (LISD), Audubon Texas, property owners or others. In some cases, two or more partners share leadership responsibility.

#### Support Entity/Entities

The entity or entities that will support the lead.

#### FY 16-17 Budget & Funding Sources

For projects proposed during the up-coming fiscal year, more specific cost estimates are provided when they are available. The programs that are expected to fund the project are also noted.

## FY 17-18 Budget & Funding Sources

For projects proposed for the FY 17-18 fiscal year, potential cost estimates and funding sources are noted.

### Other Comments

These include any general comments or notes that are important for the person or organization carrying out the strategy to know.

### Action Item List

<b>Action Items for the Green Centerpiece</b>			
<b>#</b>	<b>Name</b>	<b>Timing</b>	<b>Lead Entity</b>
<b>Action Items for the Entire Green Centerpiece</b>			
1	Approve Green Centerpiece institutional structure	1	All Operating Partners
2	Assemble the financial resources for Green Centerpiece	1	All Operating Partners
3	Cooperative burn program	1, 4	UNT
4	Create co-branding opportunities for LLELA	3	All Operating Partners
5	Create mission-related events and activities that bring people to the Green Centerpiece	2, 4	All Operating Partners
6	Design public infrastructure using principles of sustainable design	2, 4	City
7	Education and marketing for eco-tourism business connections	4	City
8	Enhance and expand education and research programs in LLELA	4	LISD, UNT
9	Environmentally-related public art	2, 4	City
10	Environmentally-related way-finding and interpretive signage throughout the City and LLELA	2	City
11	Establish trails, bikeshare or other mobility connections	3	City, DCTA
12	Exotic species control program for vegetation threatening LLELA's ecosystems	2, 4	UNT
13	Extension of LLELA programs to other City and LISD parks and facilities	2, 4	City
14	Implement enhanced programs for reuse of treated water	3	City

<b>Action Items for the Green Centerpiece</b>			
<b>#</b>	<b>Name</b>	<b>Timing</b>	<b>Lead Entity</b>
15	Improvement of Creeks and greenbelts	4	City
16	Incorporate Green Centerpiece concepts in DCTA materials	2, 4	DCTA
17	Increase research activities conducted within LLELA	2, 4	UNT
18	Interpretive Park Ranger	2, 4	City
19	Monitor key wildlife species	2, 4	UNT
20	Outreach to showcase Green Centerpiece successes	2, 4	All Operating Partners
21	Partner for Green Centerpiece mental and physical health programs	2	City, MCL
22	Programs: 3rd party presentations and contracts	4	City, UNT
23	Review concessionaire leases on COE property	3, 4	City
24	Seek business support for Green Centerpiece initiatives	3	Audubon
25	Implement the storm water ordinance	2	City
26	Visitor experience: Gear and equipment checkout / Trail backpacks	1, 2	City
27	Visitor experience: diversify audiences	4	City
<b>Action Items for the Central Area</b>			
28	Add recreational access and educational infrastructure at LLELA	3, 4	City
29	Improved bathroom facilities	2	City
30	College level courses offered at LLELA facilities	3	UNT, LISD
31	Continue Lewisville Lake & LLELA operations	4	COE
32	Continue restoration projects	4	UNT
33	Develop a Nature Center	2, 3	City (and other funding partners)
34	Develop the Beaver Pond to its greatest potential	2, 4	City
35	Diversification of school visits	3	City, LISD, Audubon
36	Enhancement of Lake Park as a key destination place within the Green Centerpiece	3	City
37	Increase genetic diversity	2, 4	UNT
38	Infrastructure: build nature playgrounds in LLELA area	3	City
39	Interpretive plan	2	City
40	K-12 connections to real-world research	3	City, LISD, UNT, Audubon

## Action Items for the Green Centerpiece

#	Name	Timing	Lead Entity
41	Maintain the Minor-Porter Log House, smokehouse & dugout	2	City (and other funding partners)
42	Maintenance Crew to maintain LLELA and assist with major projects.	4	City
43	Marketing to schools	2	LISD, City
44	New roadway with adjacent trail and enhanced entrance	3	City (and other funding partners)
45	Tree nursery	2, 4	UNT, City
46	Office Space, and Classrooms	1	City, LISD
47	Outside teacher training workshops	3	City, LISD, Audubon
48	Program evaluation	3	City, LISD, Audubon
49	Programs: eco-university series	2, 4	City, UNT, Audubon
50	Programs: homestead	4	City, LLELA volunteers
51	Programs: natural science mentorship program	2, 4	LISD, Audubon
52	Staff training & certifications	4	City, Audubon
53	Trail development in LLELA	4	City, UNT
54	Visitor experience: trail technology	3	City
55	Volunteers: Recruit, Engage & Retain	4	All Operating Partners
56	Volunteers: river crew	4	City, LLELA volunteers
57	Volunteers: training	4	City, UNT
<b>Action Items for the Expanded Area</b>			
58	Acquisition of park land to extend the Green Centerpiece	4	City
59	Develop Land Use Plan and design guidelines/requirements	2, 4	City
60	Economic development recruitment of 'green' businesses	4	City
61	Engage residents of adjacent neighborhoods in special programs and activities	2, 4	City
62	High school environmental research program	2	LISD, UNT
63	Improved kayak launch and takeout facilities	2	City
64	Interested partner volunteerism	2, 4	All Operating Partners
65	Develop a Green Centerpiece marketing plan	2, 4	All Operating Partners

Action Items for the Green Centerpiece			
#	Name	Timing	Lead Entity
66	Marketing: promote the Green Centerpiece at ecotourism fairs and festivals	4	City
67	City adoption of Green Code	2	City
68	Outreach: university connections	2	UNT
69	Partnerships for commercialization of UNT's LLELA-based research	3	UNT, City
70	Programs: Citizen science	4	City, UNT, LISD, Audubon, LLELA volunteers
71	Programs: Restoration staff involvement & programs	4	UNT
72	Reuse of landfill property at time of closure	3	City, plant operators
73	SER Conference	2	City
74	Work with private developers to incorporate Green Centerpiece concepts	4	City
75	ADA Compliance	4	City

### Organizing for Continuing Success

A complex, multi-disciplinary initiative like the Green Centerpiece needs a continuing commitment of resources and effort from its partners if it is to be successful over time. The Operating Partners for the Green Centerpiece expect to provide this support through a continuing organizational partnership. An immediate focus – the Nature Center – brings the potential for an important new attraction within the Green Centerpiece as well as a larger role for Audubon Texas, an organization with a strong track record of success in Nature Center operation and a national reputation as a leader in conservation, ecosystem restoration and environmental education.

#### Organizational Structure

The Operating Partners that have worked together to create this Master Strategy will continue their collaboration to implement it. The appropriate decision-making bodies for each of the Operating Partners – the U.S. Army Corps of Engineers, the City of Lewisville, Lewisville Independent School District and the University of North Texas – will be asked to approve or endorse this

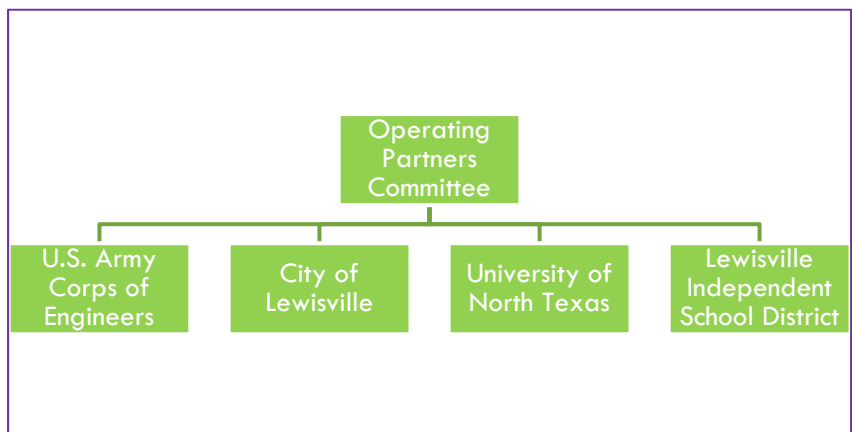


EXHIBIT 10: GREEN CENTERPIECE ORGANIZATIONAL STRUCTURE

Green Centerpiece Master Strategy. Following its adoption, a continuing organizational structure will be put in place. Representatives of each partner organization will serve on an Operating Partners Committee. This committee will oversee and coordinate progress on all of the Action Items underway each year. The Committee will ensure that the partners' contributions (in terms of funding, staff time and expertise) are adequate to carry out each year's activities. The committee is expected to meet quarterly to review progress, plan activities for the next quarter, and address any issues and opportunities for success.

Each Operating Partner will be responsible for specific Action Items each year. Each partner will secure the funding and other resources needed to carry out their Action Items, and will provide professional expertise needed to successfully complete the Action Items. Partners may play lead or supportive roles for each Action Item.

### **Funding**

The Operating Partners Committee will be responsible for ensuring that each year's funding is appropriate for the Action Items identified for that year. Each individual partner organization will contribute resources and expertise to achieve these goals.

### **The Opportunity for a Nature Center**

A significant Nature Center can bring many additional benefits to LLELA and the Green Centerpiece. It serves as a focal point for visitors, sponsors and others interested in the Green Centerpiece. It provides a venue for educational programs, research studies, events and other gatherings that does not exist in LLELA today. It will draw a larger audience of people to the site and its assets. At a practical level, it provides support for both educational and research projects by providing meeting, office and research space. Technology, equipment and tools for students and visitors can be available here as well.

Currently, Audubon Texas operates two nature centers in the Dallas – Fort Worth region – the Trinity River Audubon Center in Dallas and Dogwood Canyon Audubon Center in Cedar Hill. As part of this Master Strategy process, Audubon Texas conducted a feasibility study to determine if it would be feasible to add a third center, at LLELA. The results of this study indicate that such a center could be financially and operationally feasible. The Nature Center defined through this study would require approximately \$20 million in capital funding. The City of Lewisville has allocated \$10 million towards the Nature Center, so additional funding partners will be needed to maximize the center's potential.



Audubon has a long and successful history of managing Nature Centers. They bring expertise and their extensive contacts in the conservation and non-profit communities to the communities where they work. Some of these Audubon Centers are illustrated in the images below – the Trinity River Audubon Center in Dallas TX, the Audubon Greenwich Center in Greenwich CT and the Grange Insurance Audubon Center in Columbus OH.



Having an Audubon-managed Nature Center within the Green Centerpiece could provide the focal point for the Green Centerpiece's identity and a central gathering place for the people and organizations that support it.

Action Item #34 is the development of a Nature Center. This will be one of the most important action items for the next several years. The Nature Center's funding, design and construction represent a major opportunity for all Operating Partners, for the Green Centerpiece and for the Lewisville community.

ACTION ITEMS FOR THE ENTIRE GREEN CENTERPIECE



## 1. Approve Green Centerpiece institutional structure

<b>Action Item Description:</b>	Approve an institutional structure that can effectively manage on-going programs at LLELA and implement these Green Centerpiece recommendations.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	1	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	<p>A structure that includes all Operating Partners and benefits from their support and funding, and effectively accomplishes the projects identified each year.</p> <p>Following the Master Strategy's adoption, a continuing organizational structure will be put in place. Representatives of each partner organization will serve on an Operating Partners Committee. This committee will oversee and coordinate progress on all of the Action Items underway each year. The Committee will ensure that the partners' contributions (in terms of funding, staff time and expertise) are adequate to carry out each year's activities. The committee is expected to meet quarterly to review progress, plan activities for the next quarter, and address any issues and opportunities for success.</p>				
<b>Lead Entity:</b>	All Operating Partners				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	No additional budget impact				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	No additional budget impact				
<b>Other Comments:</b>					

## 2. Assemble the financial resources for Green Centerpiece

<b>Action Item Description:</b>	Assemble the financial resources needed to continue current LLELA programs and operations, and to cover costs identified for priority action items.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	1	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	<p>Assurance that Green Centerpiece programs can be successfully implemented.</p> <p>Each Operating Partner will be responsible for specific Action Items each year. Each partner will secure the funding and other resources needed to carry out their Action Items, and will provide professional expertise needed to successfully complete the Action Items. Partners may play lead or supportive roles for each Action Item; these roles are identified in the Master Strategy.</p> <p>The Operating Partners Committee will be responsible for ensuring that each year's funding is appropriate for the Action Items identified for that year. Each individual partner organization will contribute resources and expertise to achieve these goals.</p> <p>These funding responsibilities should remain stable until the opening of the Nature Center. Roles and responsibilities after the Nature Center is open will be negotiated while Center design and construction is underway.</p>				
<b>Lead Entity:</b>	All Operating Partners				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	No additional budget impact				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	No additional budget impact				
<b>Other Comments:</b>					

### 3. Cooperative burn program

<b>Action Item Description:</b>	Develop a working relationship between LLELA burn personnel and local fire departments in conducting prescribed burns.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	1, 4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	The development of a working relationship between LLELA burn crews and local fire officials. Wildland fire experience for firefighters. More efficient prescribed burns. Ability to conduct more complicated prescribed burns. Increased public awareness.				
<b>Lead Entity:</b>	UNT				
<b>Support Entity/Entities:</b>	City, COE				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	No additional budget impact				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	No additional budget impact				
<b>Other Comments:</b>	UNT's LLELA staff will write the burn plan, for approval by the COE (related to land management) and the Lewisville Fire Department (for burn timing and safety issues). The burns will be conducted by UNT with assistance and involvement by the Lewisville Fire Department.				

#### 4. Create co-branding opportunities for LLELA

<b>Action Item Description:</b>	Use the other major events that occur in Lewisville as opportunities to introduce LLELA to participants.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	3	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	People who participate in other events in Lewisville, whether residents or visitors, become familiar with the assets at LLELA.				
<b>Lead Entity:</b>	All Operating Partners				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	(Based on including all opportunities detailed below)  \$50,000 [\$45,000 ongoing, \$5,000 one-time] [\$19,000 printing; \$11,000 advertising; \$14,000 promotional items; \$5,000 one-time materials; \$1,000 transportation services]  Source: LLELA Operating Budget				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	(Based on including all opportunities detailed below)  \$53,500 [all ongoing] [\$27,500 printing; \$11,000 advertising; \$14,000 promotional items; \$1,000 transportation services]  Source: LLELA Operating Budget				
<b>Other Comments:</b>	Cost Breakdown and Identified Opportunities:  GENERAL NEEDS:  Booth materials – Opportunities could be either indoor or outdoor, but any on-site presence is likely to require table covers, display pieces, backdrop or banners, and possibly a branded tent or portable outdoor kiosk. These are one-time costs. Minimum recommendation for the first year is to purchase a branded outdoor kiosk, two branded vinyl table covers, one free-standing brochure display rack, and a vinyl booth backdrop or banner. Some opportunities will have additional costs, as described below.				

FY 16-17 COSTS – \$2,000 [branded kiosk tent, \$1,000; two branded vinyl table covers, \$400; one generic free-standing six-foot pole materials display rack, \$100; one branded vinyl backdrop, \$500]

FY 17-18 COSTS – none projected

Printing – General marketing materials are needed for most uses described below, including a visitor brochure, trails map, and membership brochure. The city currently prints a visitor brochure and a birding brochure, and is designing a version of a trails map. However, these are consumable items and require an ongoing investment. Additional materials will be needed as new facilities or programs are added at LLELA. Costs shown here are for additional printing needed to pursue all opportunities listed in this Action Step, and do not include printing costs associated with general marketing efforts.

FY 16-17 COSTS – \$15,000 [visitor brochure, \$5,000; combined trails map, \$2,500; individual trail maps, \$2,500; membership brochure, \$2,000; redemption voucher, \$3,000]

FY 17-18 COSTS – \$23,500 [visitor brochure, \$6,000; combined trails map, \$3,000; individual trail maps, \$2,500; membership brochure, \$2,500; redemption voucher, \$3,500; paddling trail brochure, \$6,000]

Promotional Items – Many of the opportunities described below call for the use of branded promotional items or un-branded giveaways. Examples include branded water bottles or canvas bags, and generic plastic toy giveaway. LLELA does not currently have a supply of promotional items. These are consumable items and require an ongoing investment. Costs listed here include all opportunities described below, so would decrease if some opportunities are removed.

FY 16-17 COSTS – \$14,000 [small items, \$2,000 for 4,000 pieces; medium items, \$4,000 for 600 pieces; large items, \$4,000 for 200 pieces; premium items, \$4,000 for 80 pieces]

FY 17-18 COSTS – repeat of previous year

Sample items and pricing:

1. Water bottle - range \$0.50 - \$4.00 per unit
2. Sport drawstring backpack - range \$1.50 - \$4.00 per unit
3. Canvas tote bag - range \$3.00 - \$6.00 per unit
4. Flower seed packets - range \$0.60 - \$1.40 per unit
5. Coloring book (standard production, environmental themes) - \$0.50 per unit
6. Customized press-on tattoos - range \$0.05 - \$0.50 per unit
7. Plastic spiders - \$4.25 for 144 unit
8. Mini insect erasers - \$5.50 for 144 unit
9. Small bugs - \$7.00 for 48 unit
10. Sports rubber binoculars - \$6.00 per unit
11. Sunglasses - range \$1.00 - \$2.50 per unit
12. Koozie - range \$0.60 - \$2.50 per unit
13. Picnic cooler - range \$7.00 - \$30.00 per unit
14. Umbrella - range \$5.00 - \$12.00 per unit

Advertising – Some of the opportunities described below include paid advertising in specialty publications. There also needs to be a general advertising budget for various audiences, but this Action Step solely addresses those costs associated with co-branding with other events. Costs shown here are for additional advertising needed to pursue opportunities listed in this Action Step, and do not include advertising costs associated with general marketing efforts.

FY 16-17 COSTS – [listed below with individual opportunities]

FY 17-18 COSTS – [listed below with individual opportunities]

Annual Pass Sales – Each of the opportunities described below should be evaluated for the possibility of allowing on-site sale of LLELA Annual Passes. Internet access would allow passes to be purchased using credit cards, which would eliminate any cash-handling risk. Current technology would allow this to be done with a tablet and a magnetic reader using any available wireless connection.

EXISTING EVENTS:

City	ColorPalooza Funny Bunny Festival KTA Jam Session Sounds of Lewisville concerts Best Little Brewfest in Texas Western Days Spooktacular Trails Old Town Holiday Stroll MCL Grand programming
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LISD	Lewisville HS Hey Day
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UNT	None identified to date
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ColorPalooza (city): LLELA will participate in the Eco Alley environmental demonstration stations at the inaugural event on April 9. Consider adding a redemption voucher that can be redeemed at the entrance gate (with paid admission) for a branded giveaway such as a water bottle or canvas bag. Other option for future years include a plant or seed giveaway, perhaps limited to the first set number of attendees; and a “sample” habitat set up using planters and pallets that can expose visitors to the types of flora found at LLELA. In addition, LLELA could be named the presenting sponsor for Eco-Alley (at no cost) with all sponsor recognition opportunities.

FY 16-17 COSTS – existing staff resources; printing and promo item costs if used

FY 17-18 COSTS – potential costs of plant/seed giveaway

MCL Grand programming (city): Use existing city staff to produce an “EPCOT” style travel video highlighting aspects of LLELA including trails, camping, wildlife, kayaking, and river fishing. Video could be shown on the MCL Grand projection screen prior to selected public performances, and used as a general marketing video through other outlets such as the city cable channel, LISD student video programming, local hotel in-house channels, online distribution, trade shows, etc.

FY 16-17 COSTS – existing staff resources (possible cost for hotel in-house channels)

FY 17-18 COSTS – repeat of previous year

Old Town Holiday Stroll (city): Event is held the first Saturday of December, about three weeks prior to the Homestead Christmas event at LLELA. The festival presents an opportunity to create an interactive display at the event that gives a taste of the Homestead event and encourages people to attend. Volunteers in period dress could bring the display to life, and hands-on activities for kids would draw a steady crowd. The same display could be used at other Christmas festivals in Denton County.

FY 16-17 COSTS – materials and labor for a false-front cabin (\$2,000); giveaway items

FY 17-18 COSTS – repeat of giveaway items from previous year

Old Town Holiday Stroll (city) – Create a physical link between the festival and LLELA by providing free shuttle transportation from one to the other, and having the Homestead Christmas preview activities held at LLELA instead of (or in addition to) the festival.

FY 16-17 COSTS – transportation costs (\$1,000 or use city vans and drivers)

FY 17-18 COSTS – repeat of previous year

Sounds of Lewisville (city) – Free concerts are held Tuesday evenings in June and July in Wayne Ferguson Plaza. There is ample opportunity for on-site presence at any or all concerts. Children could be engaged through a LLELA coloring book (feature native birds?) to take home, temporary press-on tattoos of birds and animals found at LLELA, or other activities.

FY 16-17 COSTS – existing staff resources; \$4,000 for custom coloring book printing

FY 17-18 COSTS – repeat of previous year

Western Days (city) – Two-day festival held the end of September, draws more than 20,000 people. There is ample opportunity for on-site presence at the festival, either as simple as an exhibitor booth or as elaborate as a “sample” habitat set up using planters and pallets that can expose visitors to the types of flora found at LLELA. In addition, LLELA could be named the presenting sponsor for the Western Market (at no cost) with all sponsor recognition opportunities.

FY 16-17 COSTS – existing staff resources (printing and promo item costs above)

FY 17-18 COSTS – repeat of previous year

Funny Bunny / Spooktacular Trails (city) – Provide on-site presence at PALS events to promote LLELA to the family audience.

FY 16-17 COSTS – candy (Spooktacular) or other giveaway (Funny Bunny)

FY 17-18 COSTS – repeat of previous year

Lewisville HS Hey Day (LISD): LLELA shared booth space in 2015 with the city's Parks and Leisure Services Department, providing printed materials about the preserve and PALS activities. Space could be used differently in 2016, offering a hands-on activity for children that will keep visitors at the booth longer. For example, large beds of soil that have "insects" buried in the dirt, so children could use hand trowels to dig for plastic toy prizes.

FY 16-17 COSTS – building the soil boxes (\$500); plastic toy prizes priced above

FY 17-18 COSTS – repeat of previous year, but plan for larger turnout

Lewisville HS Football (LISD): Hang banners at Max Goldsmith Stadium visible to both sets of stands, and include a pre-game announcement about the preserve. Consider placing an advertisement in the football game program for the full season.

FY 16-17 COSTS – produce one large or two medium banners (\$500); program ad purchase cost (\$1,000)

FY 17-18 COSTS – repeat ad purchase cost, but consider adding other LISD stadiums

UNT Football (UNT): Create some sort of LLELA presence at UNT home football games, similar to the LHS proposal presented above. Program advertising would be the cornerstone, but an on-site booth with branded giveaways could be considered.

FY 16-17 COSTS – program ad purchase cost (\$10,000)

FY 17-18 COSTS – repeat of previous year; possible addition of branded giveaways

#### FUTURE/POTENTIAL EVENTS:

Earth Day (April 22) – City observance is folded into ColorPalooza on April 9. Are there events planned at LISD or UNT? If so, a LLELA presence should be arranged either on-site or in print.

LLELA events – Consider creating a series of moderately sized, low-impact special events at LLELA. This has proven successful in the past with the Ale of a Trail Run. The Elm Fork could present an opportunity, depending upon conditions.

Pro Watercross Tour (summer 2017) – Create a shuttle connection from Lake Park to LLELA, using on-site presence for LLELA at the event and themed activities at the preserve.

OTHER IDEAS:

LISD does an art contest for each school level (elementary, middle, high). Consider an art contest at LLELA, promoted through LISD schools, where students visit the preserve and draw, sketch, paint, or otherwise represent something they see there. Selected entries can be displayed at MCL Grand or other city and school facilities.

LISD has a conservation program or a “green” program. LLELA could sponsor something special as part of this program, with students receiving a redemption coupon for admission or a promotional gift.

This year, for the first time, UNT is offering a “Global Citizen Sustainability Scholarship” with the help of Jostens. UNT is looking for undergrads who are preparing for a career in sustainability and who engage in green activities. The winning student will receive \$1000. Could LLELA partner with a group like Keep Lewisville Beautiful or a local plant store to offer this type of scholarship, either in conjunction or as a separate initiative?

Is it possible to set up a “sample” version of LLELA on the UNT campus? Find a place on campus that has good visibility and set up a display of different plants and habitats found at LLELA.

## 5. Create events & activities bringing people to the Green Centerpiece

<b>Action Item Description:</b>	Build on past events to create a year-round calendar of activities that draw Lewisville residents and visitors to the Green Centerpiece.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$-\$\$
<b>Desired Result or Outcome:</b>	<p>Connect people with nature, but without damaging the diverse wildlife habitat.</p> <p>Current events should continue. Additional events should be added, assuming there are staff resources to support them. For future budget years, the staff and resources needs should be determined by the Green Centerpiece marketing plan.</p>				
<b>Lead Entity:</b>	All Operating Partners				
<b>Support Entity/Entities:</b>	Audubon, Friends of LLELA				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	General Fund and 4B funds				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	General Fund and 4B funds				
<b>Other Comments:</b>					

## 6. Design public infrastructure using principles of sustainable design

<b>Action Item Description:</b>	Use sustainable design so public infrastructure sets an example for the community and exemplifies the values behind the Green Centerpiece.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	<p>More sustainable capital investments and examples for others to follow.</p> <p>Projects under design now that exemplify this approach include the Multi-generational Recreation Center and new fire stations.</p>				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	CIP Funds				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	CIP Funds				
<b>Other Comments:</b>	Capital improvements funded by the 2015 bonds should be reviewed to incorporate sustainable design. Sustainable design does not significantly increase project capital costs if incorporated from the beginning of the design process, and it can reduce operating and maintenance costs over the life of the facility.				

## 7. Education and marketing for eco-tourism business connections

<b>Action Item Description:</b>	Use outreach to restaurant, hotel and other hospitality businesses to create marketing opportunities and develop eco-tourism business connections. Encourage LLELA visitors to take advantage of other Lewisville assets and businesses, and use the hospitality/tourism businesses to introduce visitors to LLELA.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	More visitors at LLELA and new customers for local restaurants, hotels and shops. Note that marketing materials for these initiatives are included in Action Item #5.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	LISD, UNT				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	<p>LISD – provide venue information, marketing materials and possibly entrance vouchers to student groups participating in multi-day competitions or conferences at LISD facilities. Display LLELA marketing materials at LISD facilities where appropriate (administration, Westside Aquatic Center, etc.)</p> <p>UNT – pursue creation of an Eco-Tourism program, likely as part of an existing program already established.</p> <p>COL – provide a limited supply of admission vouchers to participating hotels for distribution to interested guests. Provide LLELA marketing materials and a limited supply of admission vouchers to large youth sports events and professional conferences. Pursue the possibility of airing an “Epcot-style” video on in-house television channels at local hotels. Pursue mounting LLELA photos, with visible branding, at local hotels and restaurants. Create and market eco-tourism packages on the CVB website and through third-party travel sites. Conduct fam tours for regional tour operators.</p>				

## 8. Enhance and expand education and research programs in LLELA

<b>Action Item Description:</b>	Blend LISDOLA and LLELA programs so offerings are coordinated and supportive of one another. Use LLELA in UNT's development of an environmental curriculum, including focus on water and solid waste issues.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$-\$\$
<b>Desired Result or Outcome:</b>	<p>A fee-based education program that can be used for various grade levels at LISD, other K-12 schools and for UNT students.</p> <p>Activities underway now will be included and considered during the planning for Nature Center programming and curriculum.</p>				
<b>Lead Entity:</b>	LISD, UNT				
<b>Support Entity/Entities:</b>	City, Waste Management, Republic, COE, Texas Parks & Wildlife				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Cash from all parties; grants				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Cash from all parties; grants				
<b>Other Comments:</b>	<p>A unique feature that provides an additional benefit of exploring ecosystem services at LLELA is the strong educational outreach program already underway. Approximately 10,000 school aged children in grades 1 through 8, and several hundred university students visit LLELA each year to explore and learn about environmental systems. As ecosystem services research activities begin to more fully understand the ecosystem functions at LLELA, and those functions become associated with benefits to people, the curriculum for students visiting LLELA can be developed in a way to make the concept of ecosystem services a normal thought process when questions such as "why are we concerned about the environment" are asked. These students will become the educated citizens of our communities who will ultimately expect their decision makers to incorporate the value of ecosystem services into their decision making authorities.</p> <p>(From Research Committee's "Research Strategy for LLELA")</p>				

### 9. Environmentally-related public art

<b>Action Item Description:</b>	Use public art at gateways and other key locations throughout Lewisville to communicate the community's focus on the Green Centerpiece.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	<p>Artwork at gateways and other key locations that engages people in thinking about their environment and the assets of the Green Centerpiece.</p> <p>The process for designing and selecting art should be considered during the development of the City's Public Art Master Plan in FY 16-17.</p>				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	LISD, UNT (arts programs for both)				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Arts Funding, grants; Master Plan funded by City in FY 16-17.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Arts Funding, grants				
<b>Other Comments:</b>	The first step would be to review existing plans for gateways and current public art criteria, to determine how this emphasis can be incorporated in future designs.				

**10. Way-finding and interpretive signage**

<p><b>Action Item Description:</b></p>	<p>Environmentally-related way-finding signage is important for residents and visitors who are seeking destinations in Lewisville. Including an environmental focus conveys the message about the importance of the Green Centerpiece to Lewisville’s community character. While this signage is important throughout the city, way-finding signage is also needed at LLELA along with expanded interpretive signage.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>2</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Clear and understandable way-finding signage that is in place when the Nature Center opens. Along with the signage, provide more user-friendly trail maps. Visitors understand all the trail routes and can easily find their way.</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>UNT</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>\$5,000 way-finding to LLELA , General Fund</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>\$10,000 way-finding &amp; interpretive at LLELA, General Fund</p>				
<p><b>Other Comments:</b></p>	<p>The first step is to review existing and currently-planned way-finding systems to decide how to incorporate this emphasis.</p>				

**11. Establish trails, bikeshare or other mobility connections**

<p><b>Action Item Description:</b></p>	<p>Use mobility tools and techniques to make it more feasible to reach LLELA on foot or bicycle from DCTA stations and Old Town.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Easy access to LLELA and other Green Centerpiece areas by people on foot or bike.</p>				
<p><b>Lead Entity:</b></p>	<p>City, DCTA</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>Grants, Private Operator</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p><a href="http://www.pedbikeinfo.org/programs/promote_bikeshare.cfm">http://www.pedbikeinfo.org/programs/promote_bikeshare.cfm</a>  <a href="https://www.bcycle.com/">https://www.bcycle.com/</a>          LLELA Flap Grant for road and trail improvements scheduled for Phase I 2020 and Phase II 2022.</p>				

**12. Exotic species control program for vegetation threatening LLELA's ecosystems**

<b>Action Item Description:</b>	Program designed to encourage community action in local parks. Facilitate community groups and individuals in removal of exotic species in parks. Organize work days and educational/informational meeting to inform participants as to the importance of their efforts. Specifically start with Chinese privet which, when present, makes a huge impact on volunteers due to the obvious positive impact they are able to effect with their efforts.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	Reduction of exotic species in local parks and other areas would reduce the available sources of seed input into the central area. Public awareness of issues related to exotic species. Community awareness of their local parks. Development of community grassroots action and feeling of ownership over their parks. With the knowledge and empowerment giving, a continuing effort by local groups to maintain and improve the conditions of "their" areas is likely to occur.				
<b>Lead Entity:</b>	UNT				
<b>Support Entity/Entities:</b>	City, Friends of LLELA, Scout groups, KLB				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Grants				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Grants				
<b>Other Comments:</b>	Efforts would create a feeling of community and ownership that would help maintain natural areas via volunteers throughout the city. The improved conditions in the city's natural areas would improve the QOL for its citizens and make the city a more desirable place to live/move to.				

**13. Extension of LLELA programs to other City & LISD parks and facilities**

<b>Action Item Description:</b>	Incorporate the environmental education and activities that occur at LLELA in the programs at other City parks and facilities				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	2,4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Increase people’s opportunity to learn about and also recreate in this diverse native ecosystem. The desired result is that people are encouraged to visit LLELA as a result of their experiences at other City parks and facilities.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	LISD				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	General Fund. These programs are set up to at least break even-and the impact to budget would be \$0.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	The new Multi -Generational Recreation Facility and adjacent park will offer an excellent design that connects the Lewisville community and LLELA.				

**14. Implement enhanced programs for reuse of treated wastewater effluent**

<p><b>Action Item Description:</b></p>	<p>Make treated wastewater effluent a resource that can be used in the Green Centerpiece in areas where the ecosystem and/or recreational activities need water.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Reuse treated wastewater so it provide a more reliable water source for the ponds at LLELA.</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>COE, TCEQ, EPA, TWDB</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>					

**15. Improvement of Creeks and greenbelts**

<p><b>Action Item Description:</b></p>	<p>In FY 14-15, the city funded a crew to target clean-up of Timbercreek; expand creek clean-up. Use the Green Centerpiece as an example of best practices in the conservation, use and reuse of water.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Areas that are aesthetically pleasing and representative of nature</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>KLB</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>Currently funded in General Fund</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>General Fund</p>				
<p><b>Other Comments:</b></p>					

**16. Incorporate Green Centerpiece concepts in DCTA materials**

<b>Action Item Description:</b>	Use DCTA's communications to share Lewisville's focus on the Green Centerpiece and to draw visitors from other parts of DCTA's service area.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Increase awareness and visitation of the Green Centerpiece by a regional audience, with an emphasis on public transit connections.				
<b>Lead Entity:</b>	DCTA				
<b>Support Entity/Entities:</b>	City				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	No additional funding needed.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Funding level depends upon advertising options with DCTA.				
<b>Other Comments:</b>	<p>This action item requires input from DCTA marketing staff. At this time, paid advertising options are limited. In addition, access to the green centerpiece using DCTA public transit is limited.</p> <p>Options: Approach CTA about creating transit access (Connect bus service) to the Green Centerpiece, especially the LLELA entry gate. Display marketing materials or images at the main DCTA train station in Denton and at other facilities where appropriate. Research options for including information on printed DCTA passes as an ongoing or rotating marketing impression. Revisit paid advertising options for DCTA facilities, buses and trains. Approach DCTA about possible cross-promotional hyperlinks on the LLELA and DCTA websites. Once there is DCTA access available, include transit information on LLELA marketing materials where appropriate.</p>				

**17. Increase research activities conducted within LLELA**

<b>Action Item Description:</b>	Increase awareness of UNT researchers of opportunities at LLELA to support the stated purpose of the U.S. Army Corps of Engineers' lease property: to preserve and restore Texas ecosystems and biodiversity while providing opportunities for environmental education, research and recreation.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$\$\$
<b>Desired Result or Outcome:</b>	Increased awareness will lead to increasing the types of scientific questions that can be explored at LLELA. These questions will lead to an increased number of research grant proposals submitted to local, regional and national funding sources.				
<b>Lead Entity:</b>	UNT				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	NSF, EPA, COE, TPWD, etc.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	NSF, EPA, COE, TPWD, etc.				
<b>Other Comments:</b>	<p>The concept of ecosystem services is poised to be a substantial contributor to the next generation of natural resource management efforts. With a White House-led initiative requesting Federal agencies to develop plans to incorporate ecosystem services in Federal decision making, and requiring a description of current agency practice and work plans to be submitted to the Council on Environmental Quality on April 1st, 2016, the time seems ripe for LLELA to explore research opportunities focused on ecosystem services. We can view this as an excellent opportunity for LLELA researchers to explore ecosystem services through research aimed at providing science-based guidelines for practices and procedures to include ecosystem services in decision making. From a strategic perspective, focusing on ecosystem services can be the foundation of a goal of building a national reputation for research underway at LLELA, and ultimately becoming the national leader in this area.</p>				

Ecosystem services are defined as the benefits nature provides to people. One common framework, the Millennium Ecosystem Assessment, considers these services to be such things as timber and fish, regulating services such as water filtration and storage, cultural services such as recreation and existence of places and species, and supporting services such as photosynthesis and pollination.<sup>1</sup> The use of an ecosystem services approach requires a shift from thinking about ecological indicators such as acres of wetland as the primary unit of measure, toward thinking about how much water the wetlands can store for irrigation in the dry season, something referred to as a benefit relevant indicator (BRI)<sup>2</sup>, indicators that can often be quantified and monetized. While not all ecosystem services can be quantified nor monetized, the goal of much ecosystem services research is to explore ways to communicate the value of those services in ways that citizens and their decision makers can understand. The reason ecosystem services are being integrated into decision making is a desire to better capture and communicate the benefits of protecting and restoring natural resources because of the well-being and public benefits that offset the costs of these efforts. A better understanding of the benefits of ecosystem protection, management or restoration for human benefit will lead to improved decision making and outcomes. Our present metrics are vastly insufficient to capture the breadth of benefits that accrue to human societies and economies from natural ecosystems and ecosystem processes, which is why ecosystem services research is so timely.

**18. Interpretive park ranger**

<p><b>Action Item Description:</b></p>	<p>The ranger position serves as one of the primary public contacts for day users and overnight campers. This position is responsible for a wide variety of duties, including:</p> <ul style="list-style-type: none"> <li>• Providing basic information and directions</li> <li>• Explaining and increasing awareness of the facilities, programs and services provided for public use, enjoyment and education</li> <li>• Maintaining records, logs and inventories</li> <li>• Managing and training volunteer docents who provide natural and cultural history interpretive programs and services via tours, walks and campfire programs assistance to visitors</li> <li>• Coordinates with staff of the City and other agencies</li> <li>• Enforces park rules and regulations</li> </ul>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>2, 4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Interaction with the public to help further LLELA's interpretive plan, protect the park's natural resources and facilities and achieve a high compliance with the park rules for visitor enjoyment.</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>General Fund</p>				
<p><b>Other Comments:</b></p>	<p>Bilingual/Spanish speaking</p>				

**19. Monitor key wildlife species**

<b>Action Item Description:</b>	Two initiatives: Operation of the LLELA bird banding station; and Assessment of Monarch Butterfly Abundance and Habitat.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	Provide valuable information regarding the diversity and population status of bird species at LLELA and determine the relationship to habitat quality. Generate scientifically-based information on monarch butterflies in Texas in order to assist the Fish & Wildlife Service (FWS) in their compilation of biological data and descriptions of past, present and likely future threats to the species. Provide unique educational and research opportunities for all partners and the community at large.				
<b>Lead Entity:</b>	UNT				
<b>Support Entity/Entities:</b>	City, Friends of LLELA, Scout groups, KLB				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Grants				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Grants				
<b>Other Comments:</b>	<p>Mayors' Monarch Challenge:</p> <ul style="list-style-type: none"> <li>To help save the monarch butterfly, the city of Lewisville will play a leadership role by committing to restore and preserve habitat that supports the insect's 2,500 mile migration across the continent to their nesting ground;</li> <li>Citizens are encouraged to make a difference for the monarch by planting native milkweed and nectar plants to provide habitat for the monarch and pollinators in locations where people live, work, learn, play and worship</li> </ul> <p>The Monarch Butterfly Project:</p> <p>This project responds to a Request for Proposals (RFP) to generate scientifically based information on monarch butterflies in Texas in order to assist the U.S. Fish and Wildlife Service (FWS) in their compilation of biological data and descriptions of</p>				

past, present and likely future threats to this species in order for them to produce a species status assessment. Species status assessments are used by the FWS in order to assist the Director in making decisions concerning whether to designate a species as a candidate for listing as threatened or endangered under the Endangered Species Act. While species status assessment reports vary based on individual species characteristics, a status report for the monarch butterfly will likely contain a description of its historical range and population trends compared to its current and projected future range and population trends.

While the monarch butterfly is a long range migratory species that traverses three countries over successive breeding generations, the RFP limits proposed projects to those that will study the fall migration within Texas alone, asking for proposals examining either the central flyway or the coastal flyway, or both. We propose to focus on the central flyway, and in particular on the tall and mixed grass prairies that extend east to west across the central flyway. Because much of what is known about the monarch in Texas is based on roadside surveys or surveys in public parks, we offer a unique opportunity with access to more than 2 million acres of private lands in the prairies of Texas via a program known as UNT Quail, and its Quail Corridor initiative. Land owners of large tracts of land interested in understanding reasons for the decline of the northern bob white quail have united in an effort to build a contiguous alignment of private lands in a concerted effort to slow, stop, or even reverse the downward trend in population size. These land owners have given their permission for UNT to access their property for scientifically based environmental research and restoration projects. The significance of having access to over 2 million acres of private land is very important to our proposed project; less than 2.5% of Texas is owned by either the State or by the Federal government. If endangered species listing decisions are based on surveys conducted only on public lands in Texas (e.g. roadways and parks), those decisions will be based on incomplete and unavailable information, which often tend towards worst-case analyses.

We propose to address all three potential tasks described in the RFP, focused on the monarch's fall migration along the central flyway in Texas. To accomplish this, we will use existing historical data on locations and distributions of monarch butterflies for each month of the fall migration, and locations of milkweed observations in the prairies of Texas, coupled with relevant literature that reports on monarch behavior and health as related to natural and human induced stressors (Task 1). The results of Task 1 will be used to build spatially explicit models (digital maps) of (a) where these butterflies are most likely to occur within the prairies of Texas during fall migration, and (b) where milkweed is most likely to occur within the prairies of Texas. These two maps will be used to (c) model the spatial concordance between those two maps. The concordance map will allow us to generate a gradient of locations ranging from low probability of either butterfly or milkweed occurrence, to high probability of both occurring. The concordance map will allow targeted sampling during each month of fall migrations along this gradient to document: presence/absence of adults; wing wear scores of the adults; presence/absence of larva and eggs; plant community composition (including native and non-native milkweed and other nectaring plants); roosting behaviors; soil types; fire

	<p>ant presence or absence; and other site characteristics related to monarch survivability (Task 2). Because the development of monarchs from egg to eclosion is approximately 1 month, results of Task 2 will allow combining month of collection with measurements of stable-hydrogen and stable-carbon isotope ratios in monarch wing membranes, allowing an assignment of probability of natal origin (generation) for each butterfly collected. These probabilities will provide an estimate of fifth-generation abundance and distribution by building a spatially explicit map of probability of fifth-generation monarchs in Texas during late summer/autumn (Task 3). The results of these three tasks should provide current, reliable data for the FWS to include in its monarch butterfly species status assessment.</p>
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**20. Outreach to showcase Green Centerpiece successes**

<p><b>Action Item Description:</b></p>	<p>Green Centerpiece initiatives are intended to change Lewisville’s character and image. The success of these new efforts should be communicated to people who may not be aware of them, and who would become interested in visiting, living or locating businesses in Lewisville because of this character. Outreach should focus on the Metroplex, Texas, the US and international tourism.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>2, 4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Use the Green Centerpiece to create a positive public perception of central Lewisville as an environmentally friendly, upward trending option for living, working and playing.</p>				
<p><b>Lead Entity:</b></p>	<p>All Operating Partners</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>COL: Conduct fam tours for targeted developers.  LISD: Highlight student opportunities with a series of website articles (possibly video as well) as a way of distinguishing Lewisville ISD from other North Texas school districts.</p>				

**21. Partner for Green Centerpiece mental and physical health programs**

<p><b>Action Item Description:</b></p>	<p>The Medical Center in Lewisville should be a partner in creating a Green Centerpiece that supports healthy lifestyles for Lewisville residents and visitors. Other health-related businesses may also be good partners.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>2</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>The amenities and activities in the Green Centerpiece are integral parts of any wellness initiatives led by MCL and other local health care organizations.</p>				
<p><b>Lead Entity:</b></p>	<p>City, MCL</p>				
<p><b>Support Entity/Entities:</b></p>	<p>LISD</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>City; private and health care sponsorships</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>The City and MCL should begin to develop a community wellness plan in FY 16-17.</p>				

## 22. Programs: 3rd Party Presentations and Contracts

<b>Action Item Description:</b>	Provide more nature programming and compatible recreation at LLELA and in Lewisville by partnering with organizations and individuals whose missions align with the LLELA vision and mission.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	LLELA and other natural venues in Lewisville are a destination for quality nature learning. UNT, and the City of Lewisville expand and strengthen their connection with other nature organizations.				
<b>Lead Entity:</b>	City, UNT				
<b>Support Entity/Entities:</b>	UNT Institute of Applied Sciences, possible entities such as Blackland Prairie Raptor Center, National Ecological Observatory Network, Bat World Sanctuary, CritterMan, Primitive Texas, textile demonstrations appropriate for the Homestead, and more				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Some organizations will charge for a presentation; funds should be budgeted in advance or sought through Friends of LLELA				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Some organizations will charge for a presentation; funds should be budgeted in advance or sought through Friends of LLELA				
<b>Other Comments:</b>	Presentations which require audio/visual equipment will be difficult until there is a building at LLELA.				

**23. Review concessionaire leases on COE property**

<p><b>Action Item Description:</b></p>	<p>Review all leases for concessionaires on COE-leased property and determine the highest and best use of the property. City Council needs to consider all leases and determine the desired future uses that best represent the Green Centerpiece. The project should be coordinated as part of development of Northern Gateway Identity Focal Point, particularly as related to Lake Park. Uses that will be considered include private uses (resorts/conference center), active recreation (beaches/marinas/fishing barge) and natural asset enjoyment (nature center, trails).</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>3, 4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Highest and best use of all COE property</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>COE</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>Grants; 4B Sales Tax; Private Donors</p>				
<p><b>Other Comments:</b></p>	<p>Determine best use 5 years prior to end of each lease.</p>				

**24. Seek business support for Green Centerpiece initiatives**

<p><b>Action Item Description:</b></p>	<p>Offer Lewisville’s business community the opportunity to be involved in shaping this important part of Lewisville’s future. Meet with major businesses in Lewisville to seek their support for the Green Centerpiece.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Private sector support for the Green Centerpiece. The Nature Center’s funding and programs should be a primary focus for this Action Item.</p>				
<p><b>Lead Entity:</b></p>	<p>Audubon</p>				
<p><b>Support Entity/Entities:</b></p>	<p>City</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>Corporate sponsorships, employee appreciation events, public service days and other business activities could incorporate activities in or supportive of the Green Centerpiece.</p>				

**25. Implement the storm water ordinance**

<p><b>Action Item Description:</b></p>	<p>Establish standards for storm water management, in the Green Centerpiece and the rest of Lewisville, that exemplify best practices for environmental quality, public safety and fiscal responsibility. The region's iSWM standards or similar systems should be considered.</p>				
<p><b>Geographic Area:</b></p>	<p>Green Centerpiece</p>	<p><b>Timing:</b></p>	<p>2</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Safe and effective management of stormwater in Lewisville. These revisions should be included in overall amendments to the Development Code. Use of improved stormwater management techniques may result in credits against stormwater utility fees.</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>Since iSWM is a program with a set of standards and practices tailored to the North Texas region, it makes sense to review this program as the starting point for action that is appropriate for Lewisville.</p>				

**26. Visitor Experience: Gear and equipment checkout/Trail backpacks**

<b>Action Item Description:</b>	Develop a self-guided series of educational trail activities in backpacks for use by home school parents, preschool leaders, and families during LLELA visits. Expand the items at the gatehouse for visitor checkout – GPS units, binoculars, etc.				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	1, 2	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Trail backpacks provide a way for LLELA interpretive staff to convey necessary themes and concepts in an engaging way and give visitors nature exploration tools they can use even when LLELA staff is not present. Backpacks may also be checked out and taken to other green spaces within the City, expanding the LLELA vision to other Lewisville sites.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	UNT, LISD				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Grants. Library did receive a small grant, so the LLELA entry fee with backpack is waived.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Grants. Recreation fund				
<b>Other Comments:</b>	Apply for grant. Program to start this summer with backpacks to be checked out of the library.				

## 27. Visitor Experience: Diversify audiences

<b>Action Item Description:</b>	Engage local diverse populations in LLELA's assets and mission. Important steps include but are not limited to: <ul style="list-style-type: none"> <li>• Present Green Centerpiece opportunities to local Hispanic organizations</li> <li>• Offer a Spanish version of all LLELA printed materials (e.g. trail maps, signs)</li> <li>• Create QR codes for Spanish translations of trail signs</li> <li>• See "Volunteers: River Crew" for information about in-person outreach along the river</li> <li>• Hire bilingual education staff</li> <li>• Train existing staff in Spanish (e.g. monthly guided hike led by Spanish speaker)</li> </ul>				
<b>Geographic Area:</b>	Green Centerpiece	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	The Green Centerpiece remains vibrant and healthy while being used by a larger percent of Lewisville's Hispanic community. The local, growing Hispanic community regularly participates at LLELA and areas within the Green Centerpiece, engaging in the resources in environmentally responsible ways.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	UNT (Spanish students and student groups), LISD				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	General Fund, TPWD grants, Hispanic media outlets				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	General Fund, TPWD grants, Hispanic media outlets				
<b>Other Comments:</b>	All of the steps listed in this Action Item can be implemented immediately, but community engagement will become evident in the Short- to Mid-Term. Other DFW preserves have experiences they can share. For example, the Fort Worth Nature Center offered nature hikes in Spanish, and we can learn from their experience. Texas Parks and Wildlife has extensive research and experience in engaging Texas' growing Hispanic population and should be considered a resource. This action item currently is focused on Hispanic population, but can change in the future for any emerging diverse audiences.				

## ACTION ITEMS FOR THE CENTRAL AREA



**28. Add recreational access and educational infrastructure at LLELA**

<b>Action Item Description:</b>	In accordance with ecological, restoration, educational and recreational goals determine whether what assets we may need to add: picnic areas, study sites/student gathering areas, trails.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	3, 4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	More of LLELA is accessible to visitors for compatible uses. This Action Item should be an important focus in conjunction with the design and opening of the Nature Center.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	LISD, COE, UNT, Audubon				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>	City budget, Friends of LLELA, grants, Park Development Funds				
<b>Other Comments:</b>	<p>Costs are estimated at approximately \$400,000. Some example investments are:</p> <ul style="list-style-type: none"> <li>• 50 new expanded metal/vinyl clad picnic tables to replace and expand current tables \$30,000</li> <li>• Boardwalks through wet areas \$15,000</li> <li>• Wildlife viewing blinds \$20,000</li> <li>• Additional pavilion \$35,000</li> <li>• Improved and expanded permeable surface parking areas \$300,000</li> </ul>				

## 29. Improved bathroom facilities

<b>Action Item Description:</b>	Provide better restrooms for visitor use, prioritizing student needs. Assess the need for additional portable toilets in remote areas such as Bittern Marsh or the Blackjack trailhead.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	2	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Meet a basic need of our visitors in a more hygienic way than the portable toilets currently in use.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	UNT, LISD				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	City and UNT				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	City and UNT				
<b>Other Comments:</b>	Need vehicle access for placement and servicing of portable toilets. Cost estimated at \$15,000. Additional costs could be incurred for the use of wheeled composting or chemical toilets. As part of Nature Center construction, a lift station may be needed to connect facilities to sanitary sewer system.				

**30. College level courses offered at LLELA facilities**

<p><b>Action Item Description:</b></p>	<p>Use LLELA as a location to offer coursework for college students.</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Students are provided with environmental education and gain a familiarity with LLELA and Lewisville.</p>				
<p><b>Lead Entity:</b></p>	<p>UNT, LISD</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>LISD high school students could take advantage of these opportunities, as could UNT students. This Action Item could be pursued after completion of a Nature Center.</p>				

**31. Continue Lewisville Lake and LLELA operations**

<b>Action Item Description:</b>	Continue operations at Lewisville Lake that provide adequate water storage, flood protection, natural habitat and recreational opportunities. Continue operations at LLELA that benefit fish and wildlife and retain the habitat on which these species depend.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$\$\$
<b>Desired Result or Outcome:</b>	<p>Active property management to improve and preserve habitat quality and quantity according to LLELA's Comprehensive Management Plan. This involves daily activities such as: conducting prescribed burns, growing and planting native species of extirpated plants, controlling the spread of exotic species with the strategic use of herbicides and other methods, and the reintroduction of extirpated native fauna. Determine the impact of future infrastructural changes on wildlife habitat quality and native biodiversity, such as additional trails, buildings, parking, etc. Results should include:</p> <ul style="list-style-type: none"> <li>• Improved wildlife habitat, increased native biodiversity, sustainable native wildlife populations</li> <li>• Provision of a source of native biodiversity for future habitat restorations within the north Texas region</li> <li>• Prevention of fragmentation and degradation of wildlife habitat through best practices management policies.</li> </ul>				
<b>Lead Entity:</b>	COE				
<b>Support Entity/Entities:</b>	Native Plant Society of Texas, Native Prairies Association of Texas				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	This Action Item recognizes the existing and on-going COE operations.				

### 32. Continue restoration projects

<b>Action Item Description:</b>	Continue projects that restore natural areas within the Central Area, including prairies, forested and emergent wetlands, and the Trinity River floodway.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	Healthy restored ecosystems in the Green Centerpiece area.				
<b>Lead Entity:</b>	UNT				
<b>Support Entity/Entities:</b>	COE, City				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>					

**33. Develop a Nature Center**

<p><b>Action Item Description:</b></p>	<p>Fund, design and construct a Nature Center as described in the Audubon Nature Center Feasibility Study. Develop an agreement for funding and operation of the Nature Center, preferably with Audubon Texas.</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>2, 3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Design and construction of a Nature Center so that students, residents and visitors can enjoy and learn about the natural systems in the Green Centerpiece.</p> <p>The results of the Audubon Nature Center Feasibility Study indicate support for a Nature Center. Partner approvals and funding must be secured to create a center that provides the educational and visitor programming envisioned by this study. Ideally, agreements would be secured in FY 16-17, design completed in FY 17 -18, and construction completed in FY 19-20.</p>				
<p><b>Lead Entity:</b></p>	<p>City, LISD (and other funding partners)</p>				
<p><b>Support Entity/Entities:</b></p>	<p>UNT, Audubon</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>4B Sales Tax, LISD bonds, grants, private donors</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>4B Sales Tax, LISD bonds, grants, private donors</p>				
<p><b>Other Comments:</b></p>	<p>City Council funded \$5.0M in FY 15-16 and will fund an additional \$5.0M by FY19-20. LISD participation may be included in 2017 bond program.</p>				

**34. Develop the Beaver Pond to its greatest potential**

<p><b>Action Item Description:</b></p>	<p>Provide a source of raw lake water or treated wastewater effluent and develop a series of levees to feed the Beaver Pond to allow year round recreational opportunities and improved wildlife habitat, allowing it to reach its greatest potential for wildlife habitat and recreation.</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>2, 4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Year round recreational opportunities and improved wildlife habitat</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>COE</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>TPWD</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>TPWD</p>				
<p><b>Other Comments:</b></p>	<p>Cost to install Raw Water Meter is \$75,000; cost to install waterlines and levees is \$50,000. Work to be done in conjunction with changes to raw water pipeline by COE.</p>				

### 35. Diversification of school visits

<b>Action Item Description:</b>	Develop K-12 funding sources to underwrite and/or provide scholarships to disadvantaged or underserved schools in the DFW area.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	3	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	Students from diverse backgrounds can connect with their natural heritage at LLELA and gain experiences that help them understand both their place in the environment and important concepts specified in Texas. This Action Item should be done in conjunction with the Nature Center opening.				
<b>Lead Entity:</b>	City, LISD, Audubon				
<b>Support Entity/Entities:</b>	UNT				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Grants; Friends of LLELA.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Grants; Friends of LLELA.				
<b>Other Comments:</b>					

**36. Enhancement of Lake Park as a key destination within the Green Centerpiece**

<p><b>Action Item Description:</b></p>	<p>Renovation of lake park; will hire park planner to redesign for maximum use of park land to reach goals; consideration will be given to relocation of golf course (will need to pursue additional funding if decision is made to relocate golf course)</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Update Lake Park to be representative of the “urban wilderness” theme and to provide enhanced recreational amenities. Should function not only as a gathering location for community but drive tourism by bringing in quality events and sports activities. Make day use area improvements in FY 19-20 and campground improvements in FY 20-21</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>Private Sector investor for Golf Course</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>GO Bonds--\$7.7 M approved by voters</p>				

### 37. Increase genetic diversity

<b>Action Item Description:</b>	Increase the genetic diversity of LLELA through conservation and preservation efforts designed to restore the flora and fauna of the LLELA property to close to historic conditions. Methods involved include plant rescues and seed harvest from local populations, especially ones in threat of destruction. Appropriate fauna would be relocated as acceptable populations became available.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	Increase in the number and diversity of native plants and animals occupying LLELA.				
<b>Lead Entity:</b>	UNT				
<b>Support Entity/Entities:</b>	City, Friends of LLELA, KLB				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Grants, mitigation funds				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Grants, mitigation funds				
<b>Other Comments:</b>	While LLELA staff and volunteers are aware of a few remnant populations in the region, city officials may be able to increase the effeteness of local salvage operations through an increased awareness in imminent construction projects. Landowners might be more willing to grant access for salvage operations with city support of activities.				

**38. Infrastructure: build nature playgrounds in LLELA area**

<p><b>Action Item Description:</b></p>	<p>At key locations within LLELA, create flexible nature play spaces which engage visitors and program attendees and become a model for other locations throughout the City of Lewisville.</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Families with children visit LLELA for outdoor nature fun and exercise, enjoying play spaces as a regular part of visitation. Participants in field experiences and other programs also benefit from access to nature playgrounds.</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>UNT, LLELA volunteers, Friends of LLELA, LISD, AIA, ASLA, NTGBC</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>Research and pursue government and municipal grants</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>Research and pursue government and municipal grants</p>				
<p><b>Other Comments:</b></p>	<p>Creating Nature Play Areas is a growing movement, and there are many resources for designing and implementing these spaces. Playgrounds should be located close to the Nature/Visitor Center or near large parking areas such as the group campground.</p>				

### 39. Interpretive plan

<b>Action Item Description:</b>	Develop an interpretive plan which supports LLELA's mission ( <i>To preserve and restore native Texas ecosystems and biodiversity while providing opportunities for environmental education, research, and recreation</i> ). Develop goals and specific themes which education staff share with visitors through programs, interpretive signage, and social media.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	2	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	LLELA programs are supported by a cohesive set of themes which run through all activities and unify our interpretive efforts under common goals. This Action Item should include an assessment and plan for the role of the Nature Center in interpretation efforts. The role of the Interpretive Ranger and docents should be defined through this plan.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	UNT, LISD				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	City				
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	Interpretation is a method of public engagement different from education in its approach and objectives. The goal of an educator is to impart knowledge to an audience. An interpreter also shares knowledge, but at the same time strives to connect people to a natural or cultural resource at a deeper level. Interpretation highlights the big picture, and reveals meaning visitors might overlook. Interpreters help create visitors who not only use a resource, but are moved to learn more about it and protect it.				

**40. K-12 connections to real-world research**

<b>Action Item Name:</b>	30. K-12 <sup>th</sup> connections to real-world research				
<b>Action Item Description:</b>	Connect visiting students to real-life research being conducted at LLELA by: 1) Providing a forum for student groups to collect and share data on LLELA's web site, allowing comparison of data over time; and 2) allowing students to meet scientists conducting research at LLELA.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	3	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Young people have an opportunity to see themselves as scientists, think scientifically, and consider a career in the sciences.				
<b>Lead Entity:</b>	City, LISD, UNT, Audubon				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	City and UNT budgets, grants, Friends of LLELA				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	City and UNT budgets, grants, Friends of LLELA				
<b>Other Comments:</b>					

**41. Maintain Minor-Porter Log House, smokehouse, dugout & corn crib.**

<b>Action Item Description:</b>	Seek funding to hire a historic restoration expert for an annual inspection/repair visit to the log house and outbuildings. A historic corn crib has been moved to the area but has not been preserved and is in need of work before it deteriorates further.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	2	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	The Minor-Porter Log House is preserved as a resource for learning about North Texas history and heritage.				
<b>Lead Entity:</b>	City (and other funding partners)				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	City budget, Friends of LLELA, grants \$150,000				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	City budget, Friends of LLELA, grants \$5,000 per year for on-going activities.				
<b>Other Comments:</b>	\$150,000 the first year to get everything repaired and the corn crib restored. Then \$5,000 to establish a plan for annual maintenance & improvements.				

**42. Maintenance Crew to maintain LLELA and assist with major projects.**

<b>Action Item Description:</b>	Focus on well-maintained high traffic and high activity use areas west of the river. Includes routine mowing of roadsides, trail heads, camping areas. Trash cans need regular service to keep animals from scattering litter. Repair of picnic tables and benches, etc. Volunteers perform a lot of trail maintenance and clearing, but the crew would assist with machinery and equipment as needed.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	Increased recreation uses and an aesthetically pleasing natural area. A clean park will set the example for the way the environment is to be respected and cared for. It will deter littering and vandalism and help keep LLELA the place to go to connect with nature and enjoy ecologically compatible recreation.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	General Fund				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	General Fund				
<b>Other Comments:</b>	Combine with the Lake Park Crew – 1 truck & 2 maintenance workers Approximately \$70,000 for personnel cost and \$30,000 capital.				

### 43. Marketing to schools

<b>Action Item Description:</b>	Improve marketing to public and private schools to diversify and increase school participation in LLELA field experiences and other programs.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	2	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	<p>Replace the program dates/revenue that will be lost in the Fall, 2016 when Irving ISD buses its fifth-grade students to their new environmental education center in Irving ISD, instead of bringing them to LLELA (as they have been doing since 2007).</p> <p>These activities should be coordinated with the planning and operations of the Nature Center.</p>				
<b>Lead Entity:</b>	LISD, City				
<b>Support Entity/Entities:</b>	UNT				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	<p>\$5,500 ongoing (printing and postage)</p> <p>Source: LLELA Operating Budget</p>				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	<p>\$5,500 ongoing (printing and postage)</p> <p>Source: LLELA Operating Budget</p>				
<b>Other Comments:</b>	<p>A targeted mailing to public school districts, private schools, and home-school support groups will make those entities aware of LLELA opportunities as they currently exist (much of this already is being done by LLELA staff). A specialized printed material needs to be designed and printed to support this effort. [BUDGET IMPACT = \$5,000 ongoing printing costs; \$500 ongoing postage]</p> <p>LISD curriculum group, working in conjunction with UNT, can develop a series of fully developed curriculum plans that integrate field experiences into lessons. This goes beyond environmental sciences and can include fine arts, social studies, physical education and other subject fields at both the secondary and elementary levels, including special needs classes. Once</p>				

	<p>these “plug and play” lesson plans are developed, they can be made available to LISD faculty. A special “Educational Resources” section of the LLELA website would be used to offer these to teachers outside LISD and home-school support groups. All printed materials would be LLELA-branded. [BUDGET IMPACT = minimal if developed by existing staff and distributed electronically]</p> <p>UNT already has built connections with other universities and junior colleges; prepared curriculum plans should be made available to those institutions where appropriate.</p> <p>Video lessons can be recorded with existing UNT, LISD or City resources and made available in classrooms and online. Live video streams also are an option, if reliable connectivity is available. [BUDGET IMPACT = minimal if developed by existing staff with existing equipment; potential cost if wireless connectivity is needed]</p> <p>When trying to draw school groups to LLELA, consider conducting a Fam Tour for school decision-makers. [BUDGET IMPACT = minimal if conducted by existing staff with existing resources]</p>
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**44. New roadway with adjacent trail and enhanced entrance**

<b>Action Item Description:</b>	New roadway east to the river with adjacent trail and enhance the entrance with a new gatehouse relocating the staff RVs out of public view.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	3	<b>Cost to Operating Partners:</b>	\$\$\$\$
<b>Desired Result or Outcome:</b>	An environmentally pleasing entrance, accessible trail to other LLELA trails, roadway that is wider and safer for school busses and increased two way traffic. Gatehouse with a restroom and work area to accommodate two employees.				
<b>Lead Entity:</b>	City of Lewisville (and other funding partners)				
<b>Support Entity/Entities:</b>	COE				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	<p>FLAP Grant for the roadway and trail Phase I – 2020, Phase II – 2022 20% match = \$1,750,000.</p> <p>New gatehouse and relocation of staff RV's - \$125,000</p>				

### 45. Tree Nursery

<b>Action Item Description:</b>	Enhance operations at LLELA nursery to accommodate not only restoration activities on site but to provide sample/test beds to be used in beautification efforts throughout the city.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Improve operating efficiency and increase operations to accommodate various needs of the active partners.				
<b>Lead Entity:</b>	UNT, City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Grants, current LLELA operation funds				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Grants, current LLELA operation funds				
<b>Other Comments:</b>					

### 46. Office Space and Classrooms

<b>Action Item Description:</b>	Move an LISD portable classrooms to LLELA to be used for office space for Director and Restoration Manager. Move three additional portable classrooms to be used as a field office for PALS LLELA staff, including part-time educators. Classrooms will also be used for programs and volunteer training.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	1	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	On-site office space and classrooms.				
<b>Lead Entity:</b>	LISD				
<b>Support Entity/Entities:</b>	City				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Existing LLELA CIP funds				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Existing LLELA CIP funds				
<b>Other Comments:</b>					

**47. Outside teacher training workshops**

<p><b>Action Item Description:</b></p>	<p>Offer teacher training workshops to public/private school teachers, home schoolers, and other educators.</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>LLELA's instructional reach is multiplied by training outside teachers to teach environmental science. North Texas teachers from varied school districts gain an awareness of the LLELA field experiences available to their students. Programs to be coordinated with plans and operations of the Nature Center.</p>				
<p><b>Lead Entity:</b></p>	<p>City, LISD, Audubon</p>				
<p><b>Support Entity/Entities:</b></p>	<p>UNT</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>City Budget/grants</p>				
<p><b>Other Comments:</b></p>					

**48. Program evaluation**

<b>Action Item Description:</b>	Conduct participant satisfaction surveys for all programs. Where possible, assess impacts of LLELA programs on students' understanding of concepts and long-term retention of information.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	3	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Staff are able to confirm that educational and recreational programs are meeting teacher and visitor expectations while accomplishing LLELA's educational goals.				
<b>Lead Entity:</b>	City, LISD, Audubon				
<b>Support Entity/Entities:</b>	UNT				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	LLELA could potentially partner with Irving ISD, or LISD whose fifth graders and 7 <sup>th</sup> graders that have attended programs from 2010 until 2015. Their testing data over those years might give insight into impact of the LLELA visit on student retention of related information.				

## 49. Programs: eco-university series

<b>Action Item Description:</b>	<p>Create fun and engaging multi-session, deep-impact programming, connecting families and citizens with LLELA as a natural resource and as a gateway to larger ecological concepts and action. Multi-session series can focus on these concepts and more:</p> <ul style="list-style-type: none"> <li>• Watershed Ecology (kayaking and restoration)</li> <li>• Leave No Trace (camping and hiking)</li> <li>• Pollinators (nursery, prairie wildflowers)</li> </ul>				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Families and friends who attend these multi-session series have fun immersed in nature, but also learn valuable ecological concepts and stewardship which they can apply locally and globally. They become a returning audience which feeds into future legacy programs.				
<b>Lead Entity:</b>	City, LISD, Audubon				
<b>Support Entity/Entities:</b>	UNT, Kayak Power				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	UNT, City				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	UNT, City				
<b>Other Comments:</b>	<p>Here's what the Water Ecology multi-session program could look like, as an example of how any of these could be structured:</p> <ol style="list-style-type: none"> <li>1) During visit 1, participants get an overview of their local watershed and learn on-the-ground basics of kayaking and a short time in still waters (Beaver Pond)</li> <li>2) During visit 2, participants learn more about aquatic plants and restore some to wetlands, kayaking to reach certain spots(Bittern Marsh)</li> <li>3) During visit 3, participants are taught more advanced kayak techniques and practice watershed observation (McWhorter Creek)</li> <li>4) The program culminates with an eco-tour down the Elm Fork of the Trinity River with Kayak Power and staff.</li> </ol>				

**50. Programs: homestead**

<b>Action Item Description:</b>	Further develop, staff, and market programs to interpret “humans in nature” at the Historic Homestead (Minor-Porter Log Home). This likely includes expanding demonstrations during Log House Open House (see “Programs: 3 <sup>rd</sup> Party Presentations and Contracts”), musical presentations (see “Volunteers: Engagement & Retention”). It may also include slightly expanding the field experiences offered to schools and other student groups, depending on staff allocation and Interpretive Plan.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Locals know and look forward to visiting the Homestead, and it becomes an even more valuable resource to further LLELA’s mission and vision.				
<b>Lead Entity:</b>	City, LLELA volunteers				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	This program expansion must be in line with the Interpretive Plan (See “Programs: Interpretive Plan”).				

**51. Programs: natural science mentorship program**

<p><b>Action Item Description:</b></p>	<p>Establish an afterschool program to mentor students in the natural sciences and ecological fields, producing ecological stewards for life. Necessary preliminary steps include setting funding, partners, staffing, and timeline.</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>2, 4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Target audiences within LISD (e.g. Latina/os, 6<sup>th</sup> graders, females) are mentored toward careers in natural sciences, ecological restoration, and stewardship, becoming familiar with high school and college level ecology concepts. Staff and students from LISD high schools and UNT interact with the mentorship and encourage further education. The Natural Science Mentorship Program becomes a model for local organizations.</p> <p>Important: This program is not after school day care. The students are select; the goals are scientific. For program quality, mentor groups should be small (though they could potentially be simultaneous).</p>				
<p><b>Lead Entity:</b></p>	<p>LISD, Audubon</p>				
<p><b>Support Entity/Entities:</b></p>	<p>UNT, City LLELA volunteers</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>Grants, UNT and/or City of Lewisville budgets</p>				
<p><b>Other Comments:</b></p>	<p>Previously this grant-based program focused on two small groups of at-risk students within one local school (Delay Middle School). There are alternatives, including a) having one session open to the general public for a fee and another for lower income students funded by grants, and b) inviting different schools to attend on separate days. A presentation document with more detail about the previously proposed program is available upon request. This program would include LLELA outreach visits to the campuses before and after LLELA field trips.</p>				

## 52. Staff training and certifications

<b>Action Item Description:</b>	<p>Maintain staff instructor certifications in first aid/CPR, American Canoe Association kayak instructor, Boy Scouts of America Merit Badge Counselor, and if possible wilderness first aid.</p> <p>Ensure all instructors are well versed in guiding principles, procedures, and all lesson plans. Maintain high program quality by providing instructor training in interpretive principles, natural history, and relevant educational skills.</p>				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	LLELA program participants have a high degree of confidence in their own safety and in LLELA instructor abilities.				
<b>Lead Entity:</b>	City, Audubon				
<b>Support Entity/Entities:</b>	UNT				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	City budget, Friends of LLELA				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	City budget, Friends of LLELA				
<b>Other Comments:</b>					

**53. Trail development in LLELA**

<p><b>Action Item Description:</b></p>	<p>Expansion of trails in LLELA</p>				
<p><b>Geographic Area:</b></p>	<p>Central Area</p>	<p><b>Timing:</b></p>	<p>4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Expansion of trail system in LLELA to provide educational and recreational opportunities. Spine trail connectivity adjacent to Jones street to provide access to LLELA, enhancement and maintenance of existing nature trails. Additional trails to provide various points of connectivity to citywide trail system.</p>				
<p><b>Lead Entity:</b></p>	<p>City of Lewisville, UNT</p>				
<p><b>Support Entity/Entities:</b></p>	<p>Corp of Engineers</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>FLAP Grant 2020-2022</p>				

### 54. Visitor Experience: Trail Technology

<b>Action Item Description:</b>	Expand interactive technology applications on location at LLELA, especially trails, potentially including QR codes on signs with expanded information and/or Spanish translations, iNaturalist bioblitzes, a trail app, augmented reality tours, and more. This can also include remotely connecting the community with LLELA via Trail Cams and nest cams and other live feeds on LLELA and City websites.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	3	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	<p>The new, 'wired' and technologically savvy public are engaged and comfortable with their local natural green space, enjoying rich self-guided experiences which educate, entertain, and familiarize them with important concepts in the LLELA mission and vision.</p> <p>Integrate this Action Item with plans and programming for the Nature Center.</p>				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	UNT, Audubon, COE, TPWD				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>					

## 55. Volunteers: Recruit, Engage & Retain

<b>Action Item Description:</b>	<p>Recruit volunteers to add to the vibrant community that supports LLELA's vision and mission. Give regular presentations to surrounding volunteer organizations (e.g. Master Naturalists) to inform the public about their opportunities to volunteer at LLELA. Foster and support a dynamic, engaged, dedicated community of volunteers at LLELA through these and other methods:</p> <ul style="list-style-type: none"> <li>• Yearly volunteer appreciation event</li> <li>• Special events with staff (on-site and off, including trips)</li> <li>• Book/article/discussion group with staff</li> <li>• Family/group volunteer days</li> <li>• Music practice sessions for Homestead, Campfires, etc.</li> </ul>				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	<p>Volunteers stay engaged at LLELA for years because they feel a deep connection with LLELA and sense of belonging to the volunteer and staff community. They have ownership in LLELA's mission and contribute to a unique, vibrant and lasting community which supports the vision and mission.</p>				
<b>Lead Entity:</b>	All Operating Partners				
<b>Support Entity/Entities:</b>	Master Naturalist chapters & volunteers, Friends of LLELA, Volunteer Center of North Texas, Native Plant Society, Master Gardeners, and more				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	<p>Friends of LLELA could help fund volunteer events and excursions. City of Lewisville, UNT, private donations.</p>				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	<p>Friends of LLELA could help fund volunteer events and excursions. City of Lewisville, UNT, private donations.</p>				
<b>Other Comments:</b>	<p>Volunteers join the LLELA team for various reasons, but these often include 1) a sense of community and 2) learning from professionals in natural sciences. Special events with staff, on-site and off, are especially relevant for this reason.</p>				

## 56. Volunteers: River Crew

<b>Action Item Description:</b>	<p>Equip and train a volunteer River Crew to clean the river during peak hours <i>and</i> to engage with visitors along the river in a friendly, informative way.</p> <p>Equipment provided will include brochures about the dangers of littering and why and how LLELA and other natural spaces should be protected in Spanish and English. Special emphasis will be placed on seeking Spanish-speaking volunteers to participate in the River Crew as much as possible.</p>				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	The area along the Elm Fork of the Trinity River at LLELA is not only cleaned, but stays cleaner longer as citizens become informed about how to take care of this natural resource even as they enjoy its benefits.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	UNT, LLELA volunteers, KLB, Volunteer organizations (e.g. Master Naturalists)				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Apply for grants and cooperation with TPWD, City of Dallas, TCEQ, TWDB, and corporate funders. \$3,000 for printing, \$1,500 for interpretive panels and \$1,200 for volunteer shirts.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Apply for grants and cooperation with TPWD, City of Dallas, TCEQ, TWDB, and corporate funders.				
<b>Other Comments:</b>					

## 57. Volunteers: Training

<b>Action Item Description:</b>	<p>Train volunteers to support LLELA's mission and vision and augment staff efforts. Training will include (but is not limited to)</p> <ul style="list-style-type: none"> <li>• Homestead maintenance and education</li> <li>• Principles of interpretation</li> <li>• Trail guide techniques</li> <li>• Trail maintenance</li> <li>• Bird Banding procedures</li> <li>• Program procedures (e.g. Scout badge workshops, Stars on the Prairie)</li> <li>• Restoration techniques and procedures</li> <li>• See "Volunteers: River Crew" – seek out bilingual volunteers</li> </ul>				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Volunteers are self-directed and competent while also being connected to LLELA staff and mission goals. LLELA's capacity to implement the mission is more than doubled.				
<b>Lead Entity:</b>	City, UNT				
<b>Support Entity/Entities:</b>	Master Naturalist chapters & volunteers, Friends of LLELA				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Friends of LLELA could fund volunteer attendance at professional trainings and conferences such as NAI and SER.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	Friends of LLELA could fund volunteer attendance at professional trainings and conferences such as NAI and SER.				
<b>Other Comments:</b>	Program should result in some sort of certification that volunteers have been appropriately trained.				

## ACTION ITEMS FOR THE EXPANDED AREA



**58. Acquisition of park land to extend the Green Centerpiece**

<b>Action Item Description:</b>	Consider targeted properties in Lewisville; develop plans for use of targeted park land; appraisals already complete for targeted land				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$\$\$\$
<b>Desired Result or Outcome:</b>	Best use of remaining land in Lewisville to support Green Centerpiece and Extending the Green goals				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	General Fund; 4b sales tax				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	General Fund; 4b sales tax				
<b>Other Comments:</b>	City Council appropriated \$2.0M for land acquisition in FY 15-16 and will continue to add funding as resources allow.				

**59. Develop Land Use Plan and design guidelines/requirements**

<p><b>Action Item Description:</b></p>	<p>Develop a special land use plan that includes zoning, development regulations and design guidelines or requirements for public and private development in a targeted area adjacent to Green Centerpiece.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area</p>	<p><b>Timing:</b></p>	<p>2, 4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Council adopted plan that guides development and redevelopment; create a unique address in Lewisville</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>General Fund</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>General Fund</p>				
<p><b>Other Comments:</b></p>	<p>Southern Identity Focal Point already underway; next step is SH 121 adjacent area</p>				

**60. Economic development recruitment of 'green' businesses**

<b>Action Item Description:</b>	Incorporate the focus of the Green Centerpiece in Lewisville's efforts to attract new businesses by updating the City's economic development plans and programs to seek 'green' businesses.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Businesses located near the Green Centerpiece that support its objectives and benefit from its proximity.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	General Fund				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	General Fund				
<b>Other Comments:</b>					

**61. Engage residents of adjacent neighborhoods in special programs and activities**

<b>Action Item Description:</b>	Use the Green Centerpiece as an asset for adjacent neighborhoods by giving their residents special ways to relate to the Green Centerpiece.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$\$
<b>Desired Result or Outcome:</b>	Neighborhoods that differentiate themselves in the marketplace because of their relationship to the Green Centerpiece and residents who see themselves as special supporters for the Green Centerpiece assets and activities. This Action Step can be included in the work to develop a Community Character Manual for the City.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	General Fund				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	General Fund				
<b>Other Comments:</b>	We are targeting Lewisville as a whole, rather than specific neighborhoods. There are not many neighborhoods directly adjacent to LLELA and needs clarification.				

**62. High school environmental research program**

<p><b>Action Item Description:</b></p>	<p>Use the research underway at LLELA to provide opportunities for LISD high school students to participate in environmental research and make connections to university faculty and professional scientists.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area</p>	<p><b>Timing:</b></p>	<p>2</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Lewisville students who choose careers in the sciences because they have had early exposure to environmental research and contact with people in these fields.</p>				
<p><b>Lead Entity:</b></p>	<p>LISD, UNT</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>					

**63. Improved kayak launch and takeout facilities**

<b>Action Item Description:</b>	Improved kayak launch and takeout facilities at LLELA and Hebron Pkwy with ADA accessible docks, parking and restroom facilities.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	2	<b>Cost to Operating Partners:</b>	\$\$\$
<b>Desired Result or Outcome:</b>	Kayak launch and takeout facilities that provide improved ADA accessible access to the river and promotes river tourism.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	4B Funds				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	4B Funds \$1,000,000				
<b>Other Comments:</b>	Project is under design but has been delayed by the floods				

**64. Interested partner volunteerism**

<b>Action Item Description:</b>	Develop institutional programs that encourage the employees of the partners to volunteer at LLELA. This could be in the form of large events or individuals who have specific interests.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	2, 4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Increased awareness amongst the employees of the partners about the existence of LLELA and the various activities as well as opportunities that can be found there. New volunteers.				
<b>Lead Entity:</b>	All Operating Partners				
<b>Support Entity/Entities:</b>	Friends of LLELA, KLB				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	Large events could be weekday and/or weekend events.				

**65. Develop a Green Centerpiece marketing plan**

<p><b>Action Item Description:</b></p>	<p>Market LLELA to a wide but local public through various media outlets, publicizing LLELA as a location in which to practice outdoor skills, gather with family and friends, join in citizen science efforts, give back to the community through volunteering, participate in guided programs, and enjoy a natural setting.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area (and beyond)</p>	<p><b>Timing:</b></p>	<p>2, 4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>The Green Centerpiece is one of the first places local (including but not limited to Lewisville) people think of when they desire to connect with nature and enjoy ecologically compatible recreation.</p>				
<p><b>Lead Entity:</b></p>	<p>All Operating Partners</p>				
<p><b>Support Entity/Entities:</b></p>	<p>KLB</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>General Fund, 4B funds Marketing Plan = \$70,000 one-time cost outside the regular LLELA operating budget</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>General Fund, 4B funds</p>				
<p><b>Other Comments:</b></p>	<p>A comprehensive marketing plan is essential to maximize the benefit of the Green Centerpiece and to gain the greatest exposure for the Nature Center. The target audiences and their locations should be explored. Traditional (e.g. newspaper) and non-traditional (e.g. Instagram) venues to share information should be explored.  A Re-designed public website for LLELA is currently being developed, with expected launch in summer 2016. Facebook already is used to great effect, with other social media outlets will be researched after the website launch.</p>				

	<p>Create a master publicity schedule, including an editorial calendar that identifies key programs and topics throughout the year. This document will be shared by all operating partners, with specific marketing opportunities for each partner.</p> <p>A key step is developing a complete marketing plan for LLELA and the entire Green Centerpiece. While expertise exists within each of the managing partners, the need for focused attention on this project points to the need for hiring an outside firm to develop this plan. An RFP for this plan should be circulated to marketing firms and to URCM, the in-house marketing department of UNT. [BUDGET IMPACT: Creation of a professional marketing plan can range from \$40,000 to \$100,000 depending upon the complexity. A midpoint estimate of \$70,000 is used here, but should be viewed only as an estimate.]</p>
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**66. Marketing: promote the Green Centerpiece at ecotourism fairs and festivals**

<b>Action Item Description:</b>	Attract visitors to Lewisville by promoting the Green Centerpiece at national fairs and festivals focused on ecotourism.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Establish the Green Centerpiece's place among similar environmental and recreational venues regionally and nationally, and claim an increasing share of that market. Time this marketing to maximize benefit at the opening of the Nature Center.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>	\$10,000 ongoing costs (two events) Source: LLELA Operating Budget				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	\$20,000 ongoing costs (four events) Source: LLELA Operating Budget				
<b>Other Comments:</b>	<p>Early steps have been taken. LLELA will have a booth at the three-day Earth Day Dallas event bring held in April; the event will draw an estimated 70,000 visitors. LLELA staff has been looking for other similar opportunities with little success to date.</p> <p>Costs associated with this action item would include booth materials, marketing materials, and entry cost for each event. Booth materials are addressed in Action Item #4 above and would not need to be repeated here. Based on costs associated with Earth Day Dallas, the budget projection used here is \$5,000 per event for two events in FY 16-17 and four events in FY 17-18.</p>				

**67. City adoption of the Green Code**

<p><b>Action Item Description:</b></p>	<p>Put in place regulation and ordinances that support environmental quality and protection of the natural assets located in the Green Centerpiece. Light pollution is one of the issue to be addressed.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area</p>	<p><b>Timing:</b></p>	<p>2</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Reduced impact on wildlife natural cycles and the ability to maintain populations of wildlife species within a growing urban area for their own intrinsic value as well as for the enjoyment and education of the public.</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>	<p>NCTCOG, TCEQ, EPA, PUC</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>	<p>The City is working with NCTCOG to implement regionally-appropriate codes and ordinances in these areas.</p>				

## 68. Outreach: University Connections

<b>Action Item Description:</b>	UNT pursues relationships with local, state and federal agencies, related associations and other universities in support of ecosystems services research, wildlife preservation and ecological restoration. UNT works across its System to involve other components of the university.				
<b>Geographic Area:</b>	Expanded Area <u>and</u> beyond	<b>Timing:</b>	2	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	UNT is recognized as a world research leader in ecosystems services, nature preservation & restoration management; UNT is recognized as a leader in environmental education programming; the City of Lewisville is recognized as home to a world-class education and research facility, and as a national leader in Best Practices: Management-Nature Preserve.				
<b>Lead Entity:</b>	UNT				
<b>Support Entity/Entities:</b>	City				
<b>FY 16-17 Budget &amp; Funding Sources:</b>	Initially & projected – minimal and a) absorbed by UNT, and/or b) supported through identified funding (ex: grants). In FY 16-17, costs will likely be associated with pursuit of funding/grants.				
<b>FY 17-18 Budget &amp; Funding Sources:</b>	With funding/grants, facilities/equipment may be needed on-site, but these direct costs are typically funded through the grant; other tbd; in support of educational programming development (ex: curriculum), may be absorbed, funded, or supported with ask of ISD(s); all tbd.				
<b>Other Comments:</b>	<p>UNT already has built connections with other universities and junior colleges as a means to widen participation in research programs. This effort should continue. However, it is important to note that several universities that were partners in the LLELA start-up later stepped away from the project; conversations need to be held with those institutions to determine why they stepped away, and what current needs they might have that could be met through LLELA.</p> <p>UNT also actively seeks and pursues grant funding for research programs. This effort should continue as well, with cooperation from the other managing partners when needed.</p>				

	<p>Projects/programs may include:</p> <ul style="list-style-type: none"><li>• UNT internal marketing – newsletter, awareness programming, cross-study/research efforts</li><li>• UNT external outreach re: research projects to targeted entities</li><li>• UNT submits related research publications to recognized academic journals</li><li>• UNT submits papers/programs to recognized, related academic conferences</li><li>• UNT issues news releases re: programs, research to academic publications, newsletters</li><li>• UNT coordinates with other UNT departments: programming, education, study &amp; research projects</li></ul>
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**69. Partnerships for commercialization of UNT's LLELA-based research**

<p><b>Action Item Description:</b></p>	<p>Commercialize the research conducted at LLELA in a way that creates new jobs in Lewisville and increases the City of Lewisville's tax base. Encourage the businesses that commercialize UNT's LLELA-based research to location in or near the Green Centerpiece.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Economic value, increased business activity, jobs and benefits to people and the environment from the research underway at LLELA.</p>				
<p><b>Lead Entity:</b></p>	<p>UNT, City</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>					

## 70. Programs: Citizen science

<b>Action Item Description:</b>	Expand citizen science opportunities to a wider audience and engage more Lewisville (and other local) citizens in real-life science. Do this through: <ul style="list-style-type: none"> <li>• Informative programs which help people engage at LLELA (e.g. iNaturalist workshops) and at home (e.g. Nest Watch, Bud Burst)</li> <li>• Interactive events at LLELA(e.g. Bioblitzes)</li> <li>• Including Citizen Science in established programs (e.g. take Globe at Night during Stars on the Prairie program)</li> </ul>				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	People who have attended programs which feature Citizen Science are empowered to apply actual research in their communities, and engage in citizen science at LLELA. The scientific process becomes fun and accessible rather than remote.				
<b>Lead Entity:</b>	City, UNT, LISD, Audubon, LLELA volunteers				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>					

**71. Programs: Restoration staff involvement and programs**

<p><b>Action Item Description:</b></p>	<p>Involve UNT's Restoration and Research staff in current programs, and expand programming to offer Restoration- and Research-focused programs. Share the importance and applicability of restoration and research with the wider community.</p> <p>Most of these programs will be at LLELA featuring LLELA's natural resources, but some can be outreach presentations to other locations.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area</p>	<p><b>Timing:</b></p>	<p>4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Citizens are informed about local ecological concepts and management techniques, and are empowered to make better environmental decisions and enjoy LLELA more deeply.</p>				
<p><b>Lead Entity:</b></p>	<p>UNT</p>				
<p><b>Support Entity/Entities:</b></p>	<p>City</p>				
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>General Fund</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>General Fund</p>				
<p><b>Other Comments:</b></p>	<p>Ideal programs to implement this Action Item include:</p> <ul style="list-style-type: none"> <li>• Migration Bird Banding</li> <li>• Eco University Sessions</li> <li>• Prairie Walks</li> <li>• Citizen Science like iNaturalist Bioblitzes (see "Programs: Citizen Science")</li> <li>• Family/group Volunteer Days</li> </ul>				

**72. Reuse of landfill property**

<p><b>Action Item Description:</b></p>	<p>Work with landfill owners to develop closure plans that create an environmentally desirable site and use.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area</p>	<p><b>Timing:</b></p>	<p>3</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$\$\$\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Recreation uses and aesthetically pleasing setting on the site of the closed landfill.</p>				
<p><b>Lead Entity:</b></p>	<p>City, plant operators (Waste Management, Republic, Farmers Branch)</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>	<p>Private; Grants</p>				
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>	<p>Private; Grants</p>				
<p><b>Other Comments:</b></p>					

### 73. SER Conference

<b>Action Item Description:</b>	Host the Society for Ecological Restoration's conference in 2018 (or at a later time). Identify projects that can be started now by partners and then presented during the conference.				
<b>Geographic Area:</b>	Expanded Area	<b>Timing:</b>	2	<b>Cost to Operating Partners:</b>	\$
<b>Desired Result or Outcome:</b>	Showcase the new partnership and potentially learn from other existing organizations. Increase awareness of the city's ability to host conferences to other organizations. Increase awareness of the environmental work in the Green Centerpiece.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>	UNT, LISD, Friends of LLELA				
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>	\$5,000 (one-time cost) outside the regular LLELA Operating Budget.				
<b>Other Comments:</b>	<p>City staff could benefit by attending 2016 conference. Possible that some action items for the strategic plan may be good candidates for presentation in 2017.</p> <p>CVB staff approached Texas SER about the 2017 conference and was told that the group's rotation will not return to North Texas until 2018. In addition, the group's representative expressed concern about the costs associated with Lewisville Convention Center. A proposal to host the 2018 conference should be prepared and submitted that offers lower cost alternatives in regard to meeting space. This might include paying a portion of the meeting space costs in order to receive the conference. For budget purposes, a one-time cost of \$5,000 is shown.</p>				

**74. Work with private developers to incorporate Green Centerpiece concepts**

<p><b>Action Item Description:</b></p>	<p>Provide information and other assistance to developers that can help them tailor their projects in or near the Green Centerpiece to benefit from the Green Centerpiece identity and environment in their projects' design and marketing to buyers and tenants.</p>				
<p><b>Geographic Area:</b></p>	<p>Expanded Area</p>	<p><b>Timing:</b></p>	<p>4</p>	<p><b>Cost to Operating Partners:</b></p>	<p>\$</p>
<p><b>Desired Result or Outcome:</b></p>	<p>Neighborhoods and business areas that are differentiated by being 'Green Centerpiece' communities</p>				
<p><b>Lead Entity:</b></p>	<p>City</p>				
<p><b>Support Entity/Entities:</b></p>					
<p><b>FY 16-17 Budget &amp; Funding Sources:</b></p>					
<p><b>FY 17-18 Budget &amp; Funding Sources:</b></p>					
<p><b>Other Comments:</b></p>					

**75. ADA Compliance**

<b>Action Item Description:</b>	Provide compliance with all ADA accessibility guidelines.				
<b>Geographic Area:</b>	Central Area	<b>Timing:</b>	4	<b>Cost to Operating Partners:</b>	\$\$\$
<b>Desired Result or Outcome:</b>	Ensure that facilities in the Green Centerpiece meet requirements and offer opportunities for environmental experiences by people of all abilities.				
<b>Lead Entity:</b>	City				
<b>Support Entity/Entities:</b>					
<b>FY 16-17 Budget &amp; Funding Sources:</b>					
<b>FY 17-18 Budget &amp; Funding Sources:</b>					
<b>Other Comments:</b>	This will be a component of all public improvements in the Green Centerpiece.				

## TRACKING PROGRESS AND ACCOMPLISHMENTS

During 2016, the decision-making bodies of each Operating Partner will be asked to approve or endorse this Green Centerpiece Master Strategy. The priority Action Items should then be included in the appropriate budgets for FY 2016-2017.

Beginning in the fall of 2016, representatives of the Operating Partners will meet quarterly to discuss pending projects and to ensure that funding is adequate and that projects are underway. At these meetings, the representatives will identify any outstanding issues and will decide on steps to address them.

Progress on Green Centerpiece implementation should be communicated to the Operating Partners' leadership, visitors and users of the Green Centerpiece and the general public. The status of these projects should be included in the City's annual Progress Report for *Lewisville 2025*.

Priorities for the next few years focus on the steps to design and build a Nature Center, and to begin its operation. The positive recommendations from the Audubon Nature Center Feasibility Study should form the basis for negotiations about the center.