

ABSTRACT

As cities face the compounded challenges of climate change and urbanization, innovative planning strategies are essential to create resilient and sustainable communities. This research focuses on the development of a conceptual Blue-Green Corridor (BGC) along Town Creek in Jackson, Mississippi, under the HBCU Sustainable Communities Initiative, sponsored by INROADS and implemented by the Department of Urban & Regional Planning at Jackson State University. Through a qualitative approach, the study explores how the BGC concept, which integrates water management (blue) with green spaces, can enhance environmental sustainability, address flood risks, and support economic revitalization for the city.

Jackson has long grappled with urban flooding and environmental degradation, particularly along Town Creek, which has suffered from neglect and poor management. The proposed BGC aims to restore the creek's natural ecosystem, transforming it into a vibrant urban corridor that promotes sustainable growth. By enhancing stormwater retention and restoring natural habitats, the project seeks to mitigate flood risks while improving urban biodiversity.

The Blue-Green Corridor can potentially drive economic development in Jackson by attracting new investments and boosting property values. Enhancing public spaces, recreational areas, and eco-friendly infrastructure such as biking and walking trails can improve residents' quality of life, foster community engagement, and promote eco-tourism. By integrating sustainable farming and green infrastructure, the corridors will support local economies while providing employment opportunities for residents. Socially, the project advances equity by giving residents access to green spaces, fresh produce from urban gardens, and employment support programs, thereby improving public health and well-being. The corridor is envisioned as a catalyst for sustainable urban renewal, creating opportunities for economic growth while addressing critical environmental concerns.

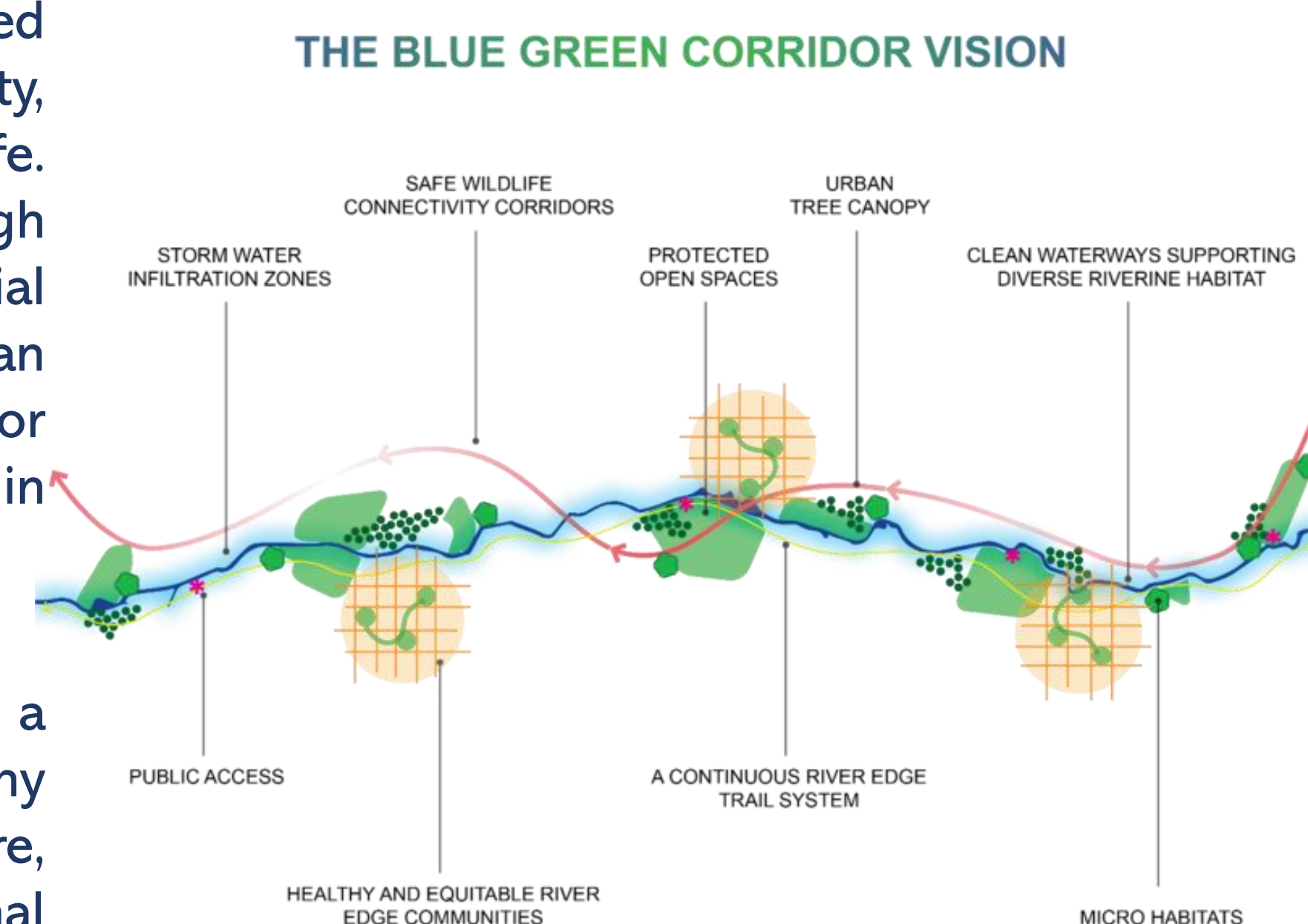
Despite its transformative potential, the implementation of the BGC faces several challenges. Securing sufficient funding, aligning stakeholders with diverse interests, and overcoming the technical complexities of retrofitting old infrastructure are significant hurdles. Additionally, ensuring meaningful community participation throughout the planning process is crucial for the success and sustainability of the project.

This project underscores the vital role of integrated urban design in creating climate-resilient and economically vibrant cities. The outcome was the development of a Blue-Green Corridor along Town Creek, which offers a visionary model for sustainable urban development, combining environmental restoration with community-driven growth. By addressing pressing issues such as flood management and urban livability, the BGC can contribute to a brighter, more resilient future for Jackson, Mississippi.

BACKGROUND

➤ Urban areas face challenges related to social and ecological connectivity, climate change, and quality of life. Improving connectivity through landscape design has the potential to promote resilience across urban landscapes. The blue-green corridor is an innovative approach used in cities to do this.

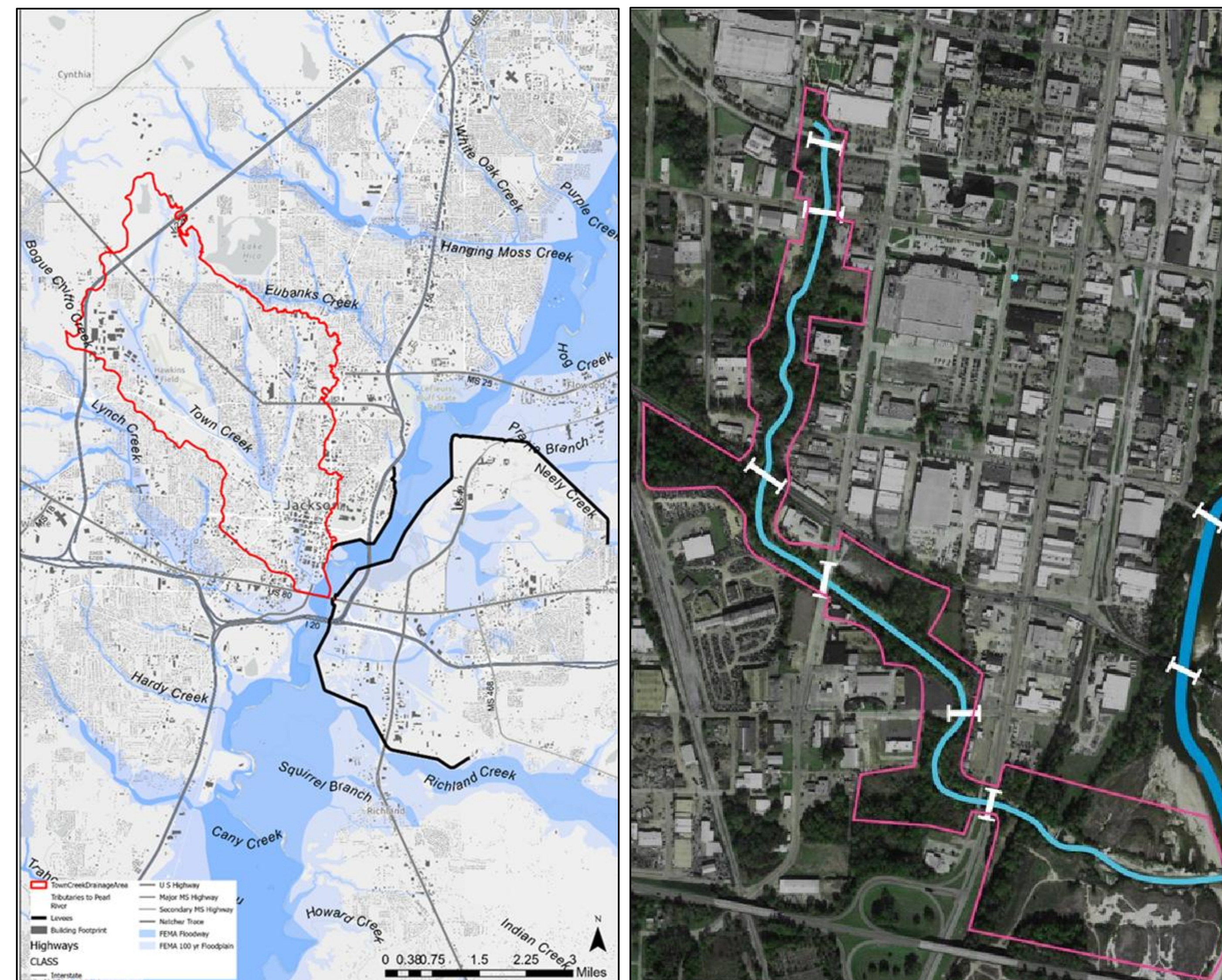
➤ A successful blue-green corridor is a connected network of healthy neighborhoods, green infrastructure, public trails, open space, recreational areas, water and wildlife habitats.



STUDY PURPOSE

Map Town Creek and develop recommendations for new landscape designs to promote human and ecological connectivity.

STUDY AREA: TOWN CREEK IN JACKSON, MS



Draining 13.6 square miles, Town Creek is a prominent stream in the center of town. It flows through neighborhoods, passes under railroad lines downtown, and is then tunneled under a portion of the city before re-emerging into the Pearl River.

OBJECTIVES

1. Assess the benefits of blue/green corridors for urban sustainability.
2. Conduct an inventory of the Town Creek corridor using satellite imagery.
3. Propose elements for a conceptual design for Town Creek that would enhance sustainability and connectivity.

METHODS

1. Review existing reports about green corridors and urban sustainability.
2. Conduct a site inventory of various nodes of Town Creek using Google Earth, auto photography and drone footage.
3. Insert imagery into ArcGIS to visualize land use and land cover.
4. Propose new land uses/cover to improve sustainability and landscape connectivity.

RESULTS

1. Predominant land cover adjacent to the creek is Agricultural & Forest Land.
2. Images show overgrown trees with significant debris in the water which can impact flows by blocking bridges and causing erosion and flooding communities.
3. The concrete-lined channels are not well-maintained.
4. Trees are growing through cracked and crumbling concrete.
5. The creek is currently suffering from poor maintenance, rendering it ineffective.
6. The analysis has resulted in the need to discuss how we can get more value from our urban creeks.
7. Blue-green infrastructure (BGI) recognizes that green space and water can produce environmental benefits, such as reduction of the heat island effect and greater control in stormwater management.
8. BGI can deliver a range of benefits that meet human needs and ecosystem services towards sustainability and well-being.

RECOMMENDATIONS

1. Wildlife Habitat (Figure 1)

- A green wall will be placed as pictured in Figure 1 as a wildlife habitat.
- The wildlife habitat features will be distributed along the green wall to boost urban biodiversity in the city.
- Educational signage will be showcased in the four corners.
- Tactical warning strips will be placed alongside the educational signage to indicate changes for the visually impaired.
- Proper lighting will be installed along the Farish St. view of Town Creek, near the bridge.

Tourism Development (Figure 2)

1. Renovate bridge with lighting for enhanced nighttime illumination
2. Eatery/Snack bar
3. Walking trail under the bridge with lighting
4. Green landscaping with flowers
5. Sensory & labyrinth garden
6. Cultural tent for community activities
7. Boat store for kayaking along the creek
8. Reception Office
9. Refreshment stalls with seating areas
10. Hut next to the creek for kayakers

Sustainable Community Hub (Figure 3)

1. Underground canal to redirect water from Town Creek, mitigating flooding risks and providing a sustainable water source for irrigation.
2. Agricultural zone will demonstrate sustainable farming practices and provide fresh produce to the community.
3. Repurpose two buildings into multifunctional community spaces with play areas.
4. Develop a central pathway connecting the high school to the development for student to enjoy urban farming.



Figure 1

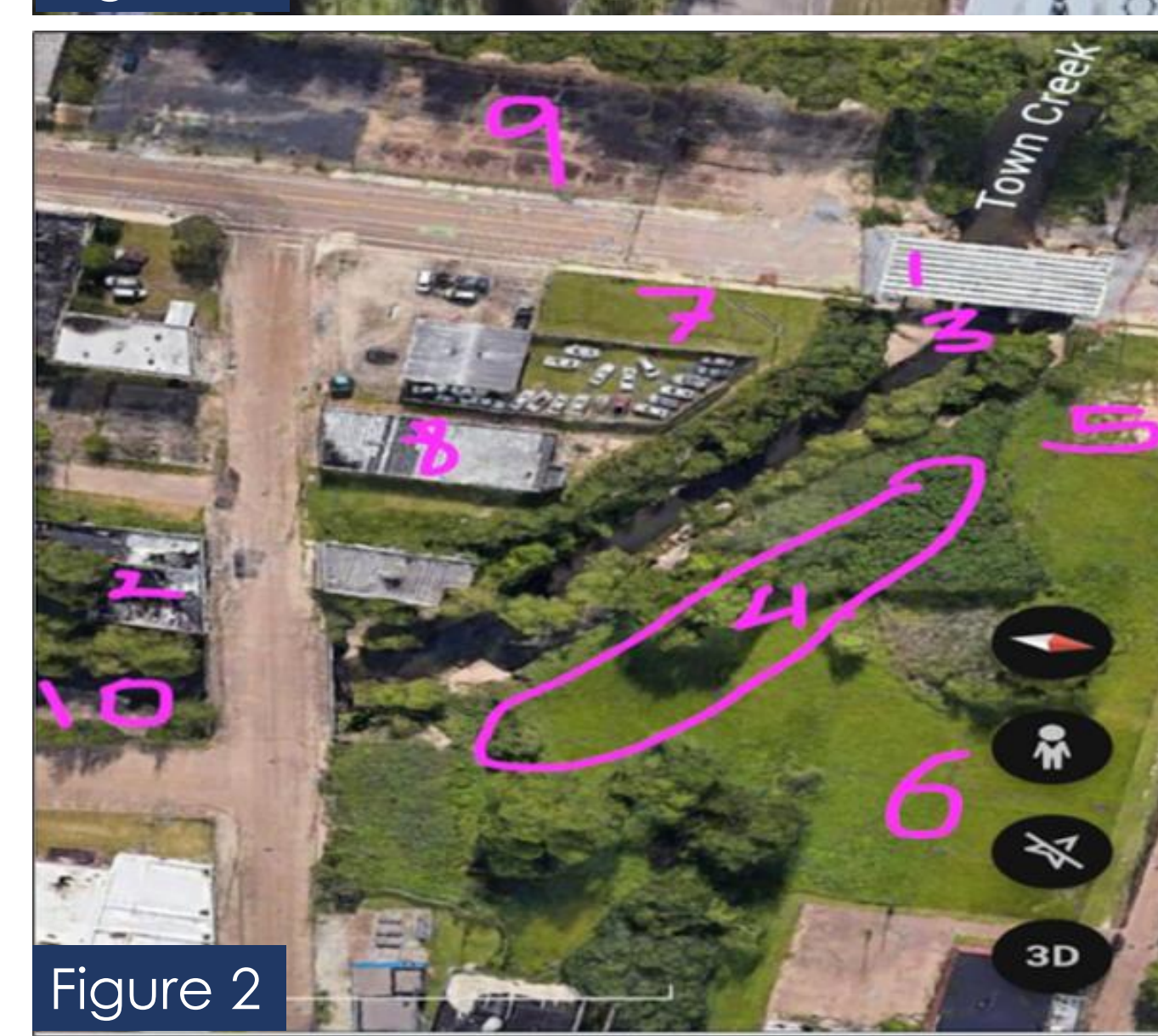


Figure 2

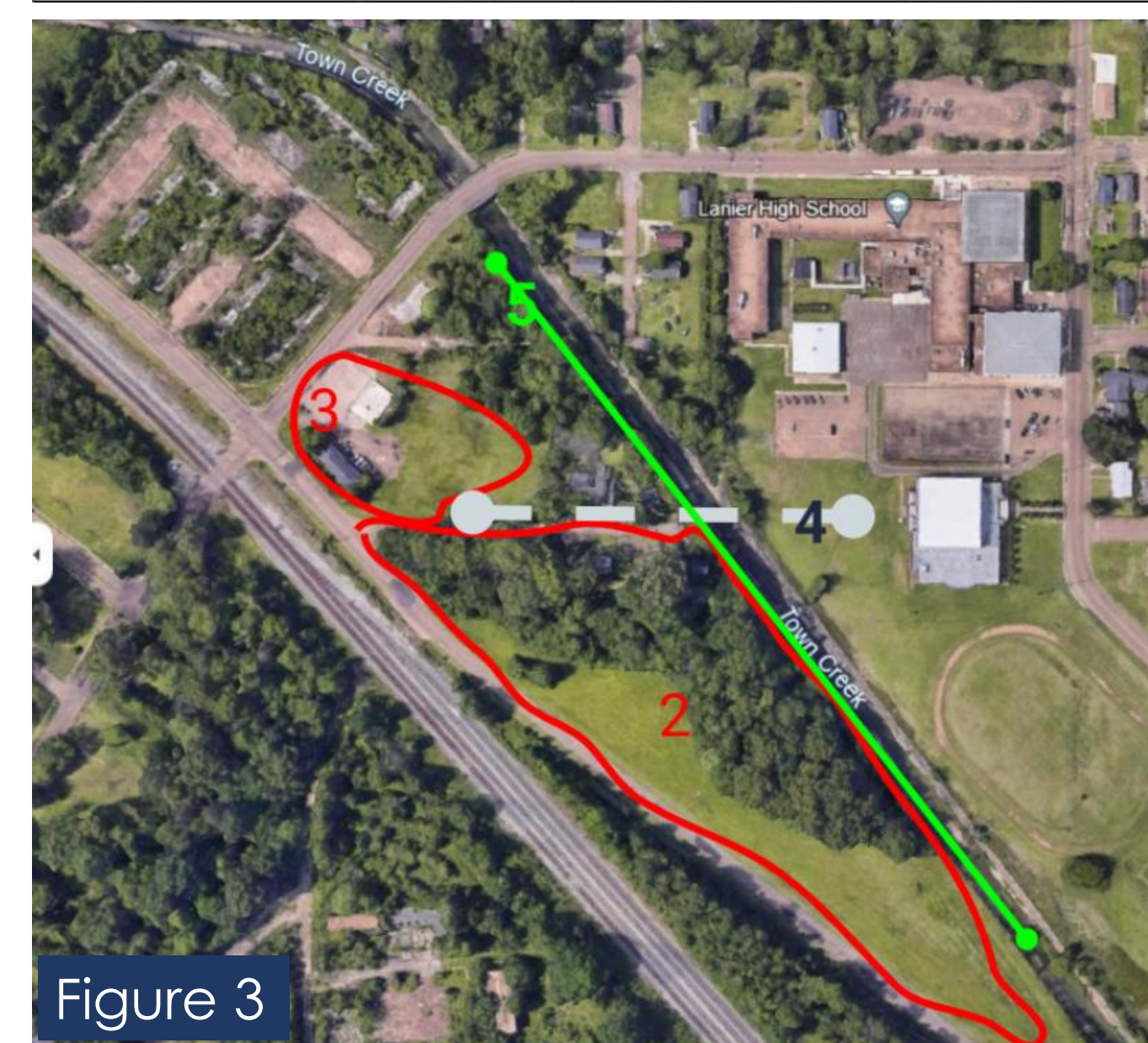


Figure 3

CONCLUSION

- The Blue-Green Corridor (BGC) project demonstrates the potential of integrated urban design to address critical challenges such as flood management and urban livability, while promoting climate resilience and economic growth. The project highlights the importance of inclusive community participation in sustainable urban development.
- The BGC offers a forward-thinking model for transforming cities, serving as a blueprint for Jackson, Mississippi, and beyond, in building a more sustainable and resilient urban future. The responsibility for Earth's future lies in the hands of young generations and raising our awareness of environmental issues was a major goal of this project. It enabled us to gain new values, skills and behaviors to foster sustainable development.

ACKNOWLEDGEMENT

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