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Sustainable micro renewal and renovation of arts town in China: Intermingling design of contemporary art and Chinese classical garden

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Abstract: The gardening philosophy of Chinese classical gardens is an integral part of China's rich traditional culture, reflecting ancient scholars' understanding of nature and humanity and embodying aesthetic and philosophical values. With the progression of time, integrating the principles of Chinese classical garden gardening into contemporary space design has emerged as a critical issue in contemporary public space design. This study uses the Butong Arts Town in Qinhuangdao as a case study, focusing on applying Chinese classical garden gardening concepts in public space design and regional micro-renovation. Special attention is given to nodes that simultaneously serve interactive and recreational functions. In the micro-renovation of the Butong Arts Town area, Chinese classical garden gardening principles can be employed through greening, landscaping, and other means to enhance the quality of the space. Additionally, by integrating local cultural characteristics, it is possible to create public spaces with distinct regional features, providing a comfortable and pleasant environment for artists, designers, planners, and tourists. The design methods used in this study explore the behavioral characteristics and usage needs of various groups from multiple perspectives, aiming to optimize activity spaces. This research identifies the main issues within the target areas and proposes corresponding improvement measures to enhance the functionality and aesthetic quality of the space. The aim is to integrate people's growing spiritual pursuits with public activity spaces, providing new references and ideas for future sustainable space design.

Keywords: micro renewal and renovation; contemporary art; Chinese classical garden; sustainable design practice

1. Introduction

An arts town (or city) primarily develops and promotes a locality's unique artistic and cultural characteristics, creating regions with distinct local features and an artistic and cultural atmosphere [1]. These towns typically integrate arts, culture, and tourism industries, forming a diversified industrial chain that attracts tourists and other consumers [2,3]. With the increasing pursuit of spiritual enrichment, art towns have become a lifestyle choice for many and have garnered considerable attention and research worldwide [4]. In a sense, art towns cleverly combine commercial and cultural elements, serving as distinctive scenes and platforms for interaction and creation among artists, designers, and planners. To successfully operate an outstanding arts town, it is essential not only to gain the support of artists but also to win the favor of the general public [5]. Research reports indicate that in recent years, the increasing impact of diversified, distinctive, and innovative culture on the lives of the Chinese

public has grown, particularly among the younger generations who closely follow contemporary trends [6].

In China, arts towns have achieved diversified industrial development by incorporating arts, tourism, and cultural industries, thereby enhancing their local and online visibility and influence. For example, Shibanyan Township in Linzhou has become a new economic growth point through cultural tourism innovation, demonstrating arts towns' significant role in promoting local economic development [7]. From the perspective of spatial design, it is crucial to explore how to create environments conducive to artistic creation for artists, designers, and other consumer groups. For instance, Yichuang Township in Zhejiang has achieved a qualitative leap in the local spatial environment by transforming an abandoned cement factory into a cultural industry town through the "Internet +" model [8]. Additionally, Yichuang Township has hosted a series of related art seminars and cultural activities, providing valuable experiences for mutual learning, exchange, and piloting in developing arts towns. These activities include numerous annual music festivals, exhibitions, and art design weeks, which enhance regional influence and public participation by promoting the arts town [8]. In some other countries, the creation of art towns often places greater emphasis on the relationship between landscape and spatial design, aiming to foster unique growth points that promote local industry development from the perspective of landscape features. For example, Yufuin Hot Spring Town has developed a unique landscape viewing system interconnected with adjacent nodes through a distinctive and compact spatial layout, thereby creating a regional hallmark and boosting local tourism revenue [9]. Moreover, some arts towns focus on supporting urban development. For instance, Kaustinen Town in Finland, known for its musical heritage, attracts numerous music enthusiasts and tourists by creating a dominant auditory experience [10].

Comparing the development approaches of art towns in China with those in other countries, each region exhibits unique characteristics and emphasizes planning and design methods tailored to local conditions. This study finds that few scholars consider the future development direction of art towns from a sustainable development perspective. Gardening techniques in Chinese classical gardens are a significant part of traditional culture, emphasizing philosophical thought, ecological aesthetics, and the integration of nature and environmental art, thus forming China's unique spatial layout and design concept [11]. In this context, this research focuses on drawing on the ideas from Chinese classical gardens to create environments that meet contemporary functional and artistic needs. Specifically, this study uses Butong Arts Town in Qinhuangdao, China, as the research object. It starts from the ideas in Chinese classical gardens and combines them with sustainable development principles to propose optimization and transformation strategies for the study area, aiming to construct a comfortable, pleasant, and sustainable spatial environment with Chinese characteristics. The goals of sustainable renewal and transformation for Butong Arts Town are diverse, aiming to create distinctive spaces with ecological and artistic atmospheres by promoting the integration and intermingling of contemporary art and Chinese classical gardens [12,13]. This, in turn, enhances the regional brand image of Butong Arts Town in Qinhuangdao and achieves local sustainable development goals with artistic characteristics.

2. Literature review

2.1. Classical nature of traditional Chinese space

The concept of spatial classicality refers to incorporating classical elements or traditional aesthetics into contemporary design to imbue spaces with a classical charm and atmosphere. This design philosophy aims to blend Chinese classical gardens with contemporary design, creating spaces that possess both classical qualities and a contemporary design sense. This concept can be understood in two ways.

- Architectural style and layout: Classical architectural styles are adopted, and existing buildings are preserved or renovated with a plan to unify them under classical tones. The renovated architectural style retains traditional aesthetics while incorporating contemporary design elements, presenting a charm that reflects the passage of time [14]. Spatial layout involves studying ancient spatial arrangements and extracting representative layout concepts from classical gardens to apply to contemporary spaces.
- Traditional decorative arts and materials: Traditional decorative arts techniques and materials containing auspicious or protective connotations are utilized. Classicality is emphasized through material selection, such as using wood and stone, which better convey a sense of historical and cultural depth. Traditional cultural aspects are infused into contemporary architecture by designing spaces with classical elements, providing a solid theoretical foundation and demonstrating the inheritance and preservation of Chinese traditional culture [15]. This design philosophy showcases the allure of classical aesthetics while meeting contemporary demands for a quality life rich in cultural heritage [15].

2.2. Contemporary applications of the classical nature of Chinese space

In contemporary design, elements of classical gardens are widely utilized, forming what is known as the New Chinese Style [11,12,14,15]. This design style inherits and promotes the classicality of Chinese gardens by extracting their features and elements and recombining and applying them in contemporary contexts [15]. Through this approach, the application of classical garden elements in contemporary spaces is fully realized, retaining the richness of traditional culture while adding the freshness of contemporary design.

In China, elements of Chinese classical gardens, such as pavilions and towers, are extensively incorporated into contemporary design. These elements reflect traditional culture and endow contemporary spaces with a unique classical feel. In terms of spatial layout and ambiance creation, Chinese classical gardens emphasize natural beauty and the creation of artistic moods, an aspect that contemporary design has also adopted [11,12,14]. Through careful design and clever arrangement, contemporary gardens can present rich artistic elements and profound cultural connotations within limited spaces.

2.3. Contemporary art and Chinese classical garden

Contemporary art emphasizes personal expression and innovation, advocating for the integration of art into the environment, making art a part of the surroundings, and

emphasizing the harmonious coexistence of art and the environment. In Chinese classical gardens, principles from classical garden texts such as “The Craft of Gardens” (Yuan Ye) and “Building Standards” (Yingzao Fashi), including concepts like “artistic conception” and “borrowing scenery,” are utilized. The design incorporates elements like “mountains” and “water”, combined with architecture and other features to create the artistic conception of classical gardens [16]. This approach reflects the classical garden philosophy and the harmonious coexistence of landscape and space.

Furthermore, the gardening philosophy in Chinese classical gardens emphasizes landscape harmony and seeks spatial layering and variation. Techniques such as “borrowing scenery” and “opposing scenery” are skillfully employed to create a natural aesthetic [17]. This embodies the traditional Chinese philosophy of “unity of heaven and man”, highlighting the harmonious coexistence of humans and nature and demonstrating a sustainable environmental concept unique to Chinese tradition [16].

In summary, in the sustainable renewal and transformation of art towns, combining contemporary art with the philosophical essence of Chinese classical gardens can create a unique spatial environment and artistic atmosphere [18,19]. From the regional development perspective, integrating Chinese artistic districts with traditional cultural tourism can build sustainable spaces that retain historical continuity while embracing contemporaneity.

3. Methodology

3.1. Overview of the study area

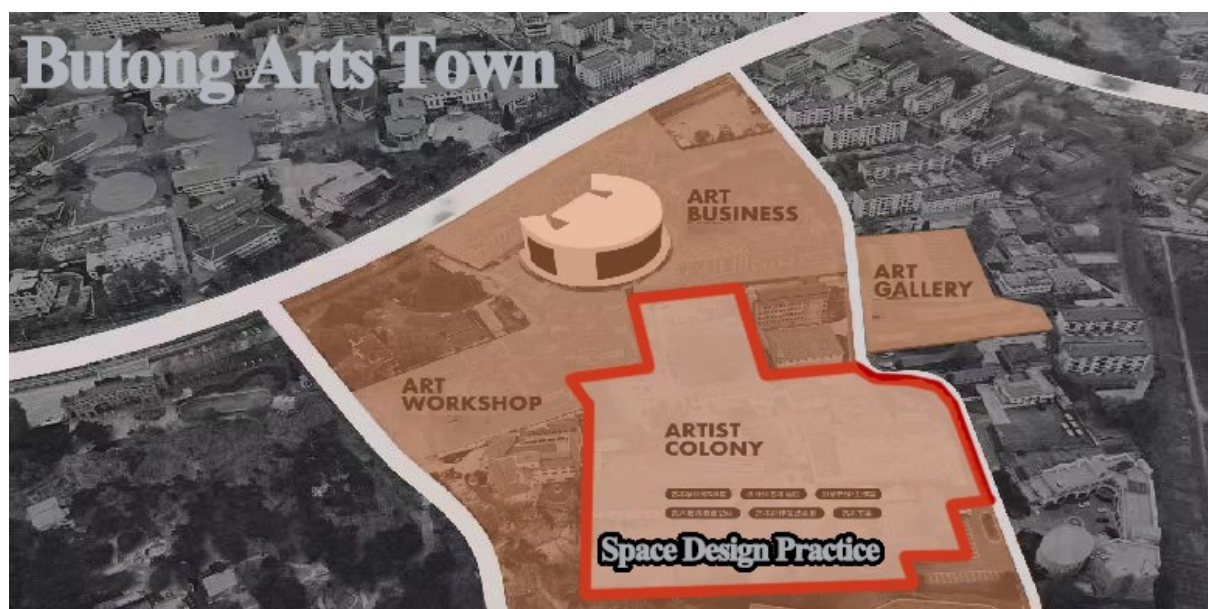


Figure 1. Design practice scope within Butong Arts Town, Qinhuangdao, Hebei, China (Coordinates of world geodetic system 1984: 119.487430024792E, 39.822579482206N).

Butong Arts Town is located in Qinhuangdao, a renowned coastal tourist destination in China (Figure 1). The area faces issues such as a lack of distinctive planning and unclear functional zoning. Butong Arts Town regularly hosts international art festivals, exhibitions, and other activities, enriching local residents’

cultural life and enhancing public art appreciation. However, as Qinhuangdao's urban scale has expanded, the city's reliance on its eastern and western ports has diminished. The advantages once provided by the ports and railways have weakened, and the city's development focus has gradually shifted northward and westward. This shift indicates a certain degree of neglect in the internal renewal of Qinhuangdao's eastern and western regions.

3.2. Study methods

In this study, field research methods were employed to investigate Butong Arts Town in-depth. Firstly, the walking test method was used, involving walking through the area to personally experience its spatial layout, architectural style, and functional zoning, thereby obtaining intuitive firsthand data. Secondly, the map marking method was applied to mark key nodes and essential landmarks on maps to ensure each survey point's precise location and subsequent analysis. Additionally, during the field survey, many images were collected, including overall landscape photos and detailed close-ups, to comprehensively reflect the architectural features and spatial usage of Butong Arts Town. It also documented the scale of the site, the purposes and styles of various buildings, and their positional relationships within the overall layout.

These field survey data provided valuable references for computer 3D modeling. Unlike traditional hand-drawn sketch modeling, computer-aided architectural design (CAAD) systems aim to assist architects in organizing and monitoring their design thinking and behavior during the early stages of planning and design [20,21]. CAAD can generate design schemes more quickly and in quantity than traditional design methods, offering more sources of inspiration and resulting in more satisfactory, higher-quality designs that help architects make more informed design decisions [20,22]. To simulate the actual effect of the scenes after computer modeling, computer rendering uses colors and materials to depict and synthesize realistic images of architectural scenes, thereby visually representing the results of planning and design [20,23].

Overall, the results of the field survey measurements provided a wealth of foundational data for this study, ensuring that the verification and optimization of CAAD schemes are well-grounded, thus ensuring the reliability and scientific validity of the research conclusions; furthermore, by comparing and analyzing the field data with the planning and design schemes generated by computer-aided design, a better understanding and validation of the 3D modeling scheme's effectiveness can be achieved, thereby providing critical support for the accuracy and feasibility of actual project designs.

3.3. Study design

This study focuses on Butong Arts Town, addressing its spatial environment deficiencies and proposing relevant sustainable renewal and transformation methods. Regardless of the era, the charm of traditional culture remains unchanged, with the Chinese classical garden standing out due to its profound cultural heritage and contemporary significance.

Integrating contemporary art and Chinese classical gardens can enhance the

inheritance and transmission of excellent local traditional culture. The gardening philosophy of Chinese classical gardens is a vital part of traditional culture. An in-depth exploration of this philosophy can provide a deeper, more comprehensive understanding of the essence of Chinese classical gardens, enriching and elevating contemporary spaces' cultural connotation and artistry. Furthermore, the sustainable development concepts embedded in Chinese classical gardens emphasize the essential idea of harmonious coexistence between humans and nature, bringing new vitality to traditional culture in contemporary society and enhancing people's aesthetic and spiritual pursuits.

Specifically, after conducting field research in Butong Arts Town, the study selected certain areas as research subjects to carry out spatial planning and design practices (Original Design Scheme). Sustainable renewal and transformation measures for Butong Arts Town, derived from the integration and collision between contemporary art and Chinese classical gardens, include the following four aspects:

(1) Creating spaces with an artistic and cultural atmosphere: The spatial design of Butong Arts Town could integrate with local culture, creating a unique artistic and cultural ambiance. Architectural styles and landscape nodes could provide ideal platforms for creation and recreational interaction for artists, designers, and visitors.

(2) Promoting the integration of Chinese classical gardens and contemporary art: The spaces in Butong Arts Town could serve as a bridge between classical gardens and contemporary art, enhancing interactions between artists and visitors through exhibitions, art festivals, and other events. This would foster the sharing of artistic resources and the sustainable development of international culture.

(3) Achieving sustainable development and ecological balance: The spatial design of Butong Arts Town needs to consider sustainable development and environmental protection principles, minimizing excessive impact and damage to the local environment. Increasing green landscape spaces can achieve adaptability and friendliness among art, nature, and contemporaryity.

(4) Crafting a unique artistic and cultural image for the region: The spatial design of Butong Arts Town could showcase the charm and characteristics of Qinghuangdao, attracting more international artists, art enthusiasts, and visitors for interaction and exchange, thereby enhancing the regional brand and city image.

4. Findings and discussion

4.1. Spatial design strategy of Butong Arts Town

The gardening philosophy of Chinese classical gardens is a significant part of traditional culture, integrating natural aesthetics, philosophical ideas, and environmental art to form unique spatial layouts and design concepts. This study identifies the following characteristics of space design based on classical garden gardening philosophy.

- **Emphasis on landscape nodes:** The design focuses on creating landscape nodes within the area by planting various vegetation types and developing small interactive spaces. This approach fosters a natural and classical contemporary art atmosphere, enabling artists, designers, and planners to find inspiration in such an environment. By incorporating elements of Chinese classical gardens, the

design enhances the artistic ambiance of the space, attracting local residents and potential visitor consumers.

- Use of environmentally friendly building materials: The architectural style could employ traditional wood structures that are ecologically friendly, integrating natural elements to harmonize with the surrounding landscape nodes. This approach fully reflects Chinese classical gardens' artistic characteristics and green nature philosophy. It ensures the space's sustainable renewal and transformation while integrating contemporary art and Chinese classical garden elements.

Through field surveys and a review of existing literature, this study identifies several refined spatial design strategies for Butong Arts Town in Qinhuangdao, focusing on the integration and interplay of contemporary art and Chinese classical gardens.

- Combining functionality and artistic elements: The space could cater to the diverse needs of artists, providing comfortable areas for creation, relaxation, and interaction. These spaces could integrate the characteristics of Chinese classical gardens, reflecting the harmony between humans and nature and the artistic atmosphere of Butong Arts Town [24,25].
- Unifying aesthetics and functionality: The design could emphasize aesthetic value beyond practical usability. By incorporating the gardening techniques of Chinese classical gardens, the aim is to create beautiful and functional spaces, establishing distinctive features for the arts town [26].
- Sustainable development and environmental protection: Sustainable design principles could be adopted to minimize environmental impact. This includes designing green landscapes, walking paths, and environmentally friendly recreational spaces [27].
- Social participation and interaction: Butong Arts Town could serve artists and be accessible to nearby residents and potential visitors. It needs to consider public preferences and promote interaction between artists and local residents. Public art activities and social events, such as art festivals and exhibitions, could be organized to foster community engagement [8,28].

4.2. Existing limitations of Butong Arts Town

Scarcity of Public Infrastructure: Butong Arts Town lacks sufficient public infrastructure that meets the needs of its primary users. Many artists and designers are currently in the study area, but the facilities they require, such as more rest areas, are missing. Additionally, since walking is the primary mode of exploration for tourists and consumers, infrastructure is needed to support a convenient green walking environment.

- **Lack of interactive spaces:** There is a need for semi-private spaces within Butong Arts Town for communication activities. Overly, open spaces may hinder interaction among people. Currently, Butong Arts Town does not provide such spaces, forcing interactions to occur while standing or walking, which can limit the ability of artists, designers, and planners to find inspiration.
- **Lack of regional unique characteristics:** The design of Butong Arts Town lacks

distinctive regional features. The absence of a coherent thematic atmosphere may result in a lack of unique artistic ambiance, reducing the desire of consumers to visit and stay, thus making it challenging to attract and retain visitors [29].

4.3. Sustainable intervention and improvement measures

Clarify Functional Zoning: In the design of Butong Arts Town, it is crucial to clearly define functional zones, such as creation areas and interaction areas, to meet the diverse needs of various artistic activities and groups. Proper planning of pedestrian flow is essential to minimize interference and conflicts between different activities. A well-defined spatial development direction for Butong Arts Town could be established to optimize the allocation of space resources, enhancing the overall artistic atmosphere and embodying the theme of sustainable renewal and renovation from the perspective of integrating contemporary art with Chinese classical garden elements.

- **Increase the number of rest and interactive landscape nodes:** The existing green spaces in Butong Arts Town have a simple vegetative structure and are insufficient in number, failing to provide visual and tactile enjoyment for visitors. Drawing on the landscaping techniques of Chinese classical gardens, more shrubs and herbaceous plants could be planted to add depth and layering to the green spaces. Additionally, expanding the scope of green spaces and embedding artistic landscape installations can create resting areas for visitors, thus achieving a sustainable spatial environment.
- **Create a regional thematic identity:** Butong Arts Town's unique characteristics and design positioning aim to satisfy the diverse needs of visitors by designing corresponding landscape nodes and creating an artistic environment. By integrating the gardening principles and techniques of Chinese classical gardens, the attractiveness and appeal of the artistic spaces can be enhanced, transforming Butong Arts Town into a contemporary art space with a distinct classical charm.

5. Spatial design scheme: Sustainable practice of Arts Towns

5.1. Sustainable planning and design ideas

(1) **Preliminary research and planning:** Conduct comprehensive research on Qinhuangdao's local culture and historical background to ensure that the landscape nodes within Butong Arts Town effectively serve artists, local residents, and tourists. During on-site surveys, analyze the site conditions of Butong Arts Town to lay the foundation for subsequent design. Then, formulate an initial planning scheme that includes functional zoning, pedestrian flow, and landscape layout, each step focused on the needs and preferences of the consumer groups.

(2) **Conceptual design:** The spatial structure, based on the gardening principles of the Chinese classical garden, employs techniques such as "borrowed scenery" to create the design. The architectural style within the area aligns with the classical garden style while catering to contemporary usage needs. The choice of design elements and language, such as elevated steps and sunken courtyards, is intended to harmonize with the style of the landscape nodes, collectively creating a harmonious and sustainable

artistic spatial atmosphere.

(3) Detailed design: In the subsequent design stages, gradually refine the layout of various functional areas, including creation zones, entertainment zones, and resting zones. While maintaining the design theme, integrate the principles of the Chinese classical garden into the detailed layout. Organize artistic activities such as exhibitions and creation events at landscape art nodes to foster interaction and collaboration among local industries and communities. Ultimately, it provides a spatial environment that combines classical spatial characteristics with the needs of contemporary artistic creation.

5.2. Overall spatial design plan

5.2.1. Regional site planning and design

The design orientation of Butong Arts Town is to provide visitors with interactive, creative, and recreational services. Therefore, blending classical garden elements with contemporary space is essential during the planar development process, adhering to the project's theme of creating a truly contemporary and alternative spatial experience.

On the left side of the research area is a courtyard space utilizing sunken design elements, corresponding to the creative area's elevated design elements. This approach not only enriches the spatial interest but also employs abstract design. As a result, this area does not strictly adhere to the forms of the Chinese classical garden; features commonly seen in such gardens, like pavilions and boardwalks, are absent. Although the design breaks free from the constraints of traditional classical garden forms and does not employ conventional elements like mountains and water, it successfully merges the classical garden's ambiance with contemporary space design through abstract design elements such as distinctive green pathways and staggered architectural styles.

On the planar level, the main entrance features a grand linear landscape space, evoking the poetic charm of a classical garden. The surrounding landscape nodes and greenery are designed based on the original spatial form of the site, aiming to meet the diverse needs of artists, designers, and planners. Additionally, the landscape nodes within the area are inspired by various historical anecdotes, enhancing the interaction between the landscape and people. For instance, the "Curved Water Flowing Cup" art installation transforms a historical anecdote into a corresponding landscape node, intertwining pebbles and water flows to increase the attractiveness and appeal to visitors.

In the interactive entertainment area, a small square features a design installation that cleverly incorporates irregular mirror surfaces to propose the concept of "refusing loneliness", encouraging social interaction within the installation. The mirror decorations reflect light, creating an ambiance and spatial interest reminiscent of a classical garden. The area's layout planning draws on the arrangement methods of classical gardens, allowing the space to be designed in the style of a classical garden (**Figure 2**).

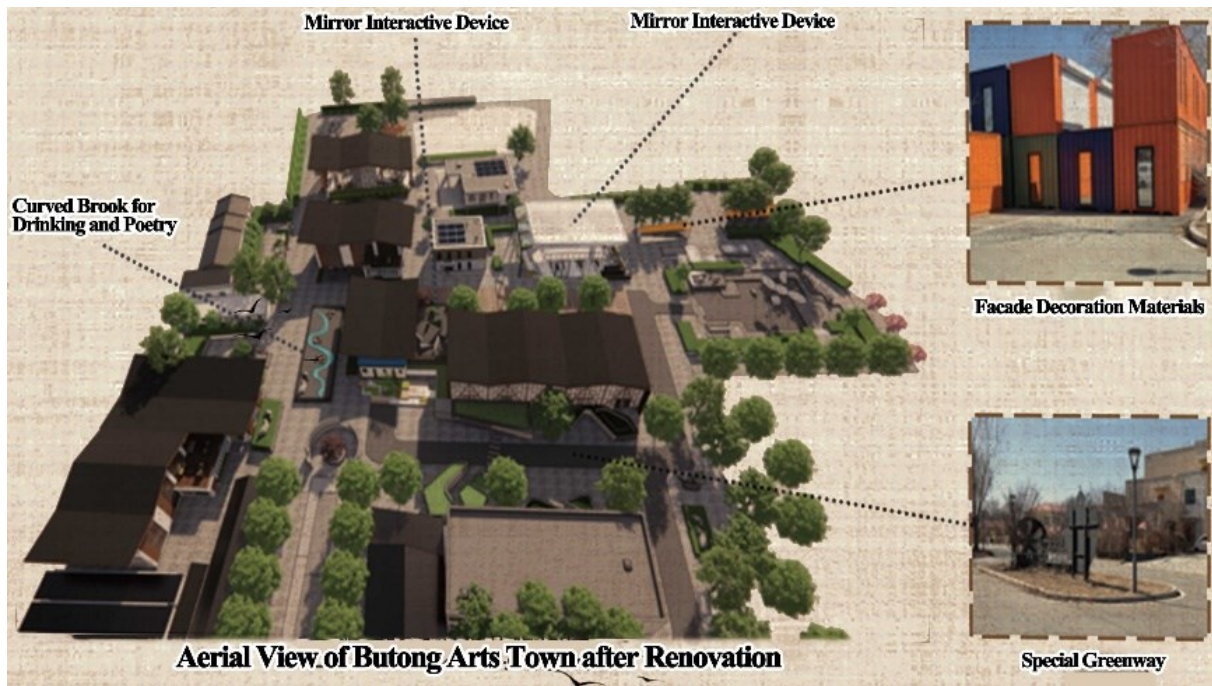


Figure 2. Spatial design scheme of Butong Arts Town after sustainable micro renewal and renovation.

5.2.2. Functional zoning and traffic flow design

Butong Arts Town has clear functional zoning, with each area designed to reflect the overall design philosophy. The area has four entrances, with the main entrance leading to a plaza that adopts the classical garden style, aiming to convey the essence and poetic nature of Chinese classical gardens [30].

- Plaza area: The central entrance plaza adopts classical garden design elements, using landscape nodes and greenery to create a classical artistic atmosphere, enhancing visitors' visual and spiritual experience.
- Interactive entertainment area: The interactive entertainment area features artistic installations utilizing integrated modular design, providing visitors with a relaxing space. Comparative analysis of different target areas shows that the environment significantly influences people's behavior; areas with seating attract more people to stay.
- Sunken courtyard and creation area: The left side features a sunken courtyard and a semi-open creation area catering to diverse needs. The design employs elevated and sunken elements to create a central landscape ambiance, enriching the spatial layers and variations [30].
- Container mirror decoration area: The right side preserves local container mirror decorations, drawing on the classical garden's layered spaces, winding corridors, and staggered buildings to create varied spatial experiences.
- Spatial hierarchy and privacy: The design of Butong Arts Town incorporates the rich spatial hierarchy of classical gardens, using winding corridors and staggered buildings to achieve both privacy and openness. The functional layout is tailored to the creative needs of artists, designers, and planners, with thoughtfully planned studios and resting areas, ensuring the space supports creativity while providing a comfortable and relaxing environment.

Through well-planned functional zoning and design strategies (**Figure 3**), Butong Arts Town not only meets the diverse needs of different groups but also blends contemporary design techniques with Chinese classical garden elements to create an artistic environment that is sustainable and rich in cultural atmosphere [30].



Figure 3. Master plan for Butong Arts Town of the spatial design scheme.

5.3. Effect of spatial node design

5.3.1. Characteristic workspace design: Abstract semi-open creative space

When designing exclusive workspaces for Butong Arts Town, providing specialized creative spaces for artists, designers, and planners is essential, ensuring functionality and privacy. Semi-open creative spaces with abstract design elements can effectively meet these needs. By thoughtfully integrating abstract design concepts and maintaining the essence of classical garden culture, the exclusive workspaces in Butong Arts Town can provide artists, designers, and planners with inspiring environments that balance privacy and collaboration, fostering creativity and interaction.

Overall spatial planning: First, the overall spatial planning of Butong Arts Town must reflect the cultural significance and artistic atmosphere of classical gardens. The design approach could incorporate abstract design principles to deeply integrate the creative spaces for specific user groups. By using “blank space” design techniques, the landscape and design language merge to infuse the space with a rich artistic ambiance, allowing artists, designers, and planners to draw inspiration more effectively and efficiently.

Semi-open creative spaces: The creative areas form semi-open spaces that fully cover artistic features, fostering interaction and collaboration among people (**Figure 4**). The color scheme primarily uses black and white tones to create a comfortable artistic environment where art enthusiasts can relax and engage in activities.



Figure 4. Design rendering of semi-open creative spaces.

The specific functional layout design is as follows (**Figure 5**).

- Creative area of the first floor: The primary space for specific groups to engage in creative work, with facilities for rest and interaction.
- Left side of the first floor: Equipped with smart devices to monitor personal status.
- The central area of the first floor: Private spaces and areas for interaction.
- Right side of the first floor: Features small group discussion areas for meetings and collaboration, enhancing the refinement of their work.
- Raised staircase of the first floor: The left half is designated for rest, while the right half allows for normal vertical movement.
- Activity area of the second floor: A space where art enthusiasts can read or engage in recreational activities, further promoting a holistic artistic environment.



Figure 5. Design rendering of semi-open creative spaces.

5.3.2. Small square design of the third space: Creating “rejecting loneliness”

The design philosophy is based on “Rejecting Loneliness” by creating a highly interactive space environment that encourages social interactions and allows people to enjoy communication. This philosophy aligns with the concept of the “third space”, which refers to public spaces outside of work and home designed for relaxation, socialization, and other activities [31–33].

The Butong Arts Town space includes a third space plaza that allows people to interact. The light-colored structures within the space emphasize the “rejecting loneliness” concept, enhancing the enjoyment of social interactions. Mirror decorations within the space reflect light internally, increasing the spatial interest and creating a dynamic atmosphere. The structures are designed with the theme of the starry sky in mind. The lighting design achieves the desired effect at night, with the ground representing the Milky Way and the structures symbolizing solitary stars. This design aims to encourage people to step out of loneliness and shine brightly like stars, promoting interaction, gathering, and inspiring the characteristics of the third space.

By integrating the “rejecting loneliness” concept and third space philosophy, the Butong Arts Town design fosters a welcoming and engaging environment that encourages social interaction and enriches visitors’ overall experience (Figure 6). The symbolic use of starry sky elements further enhances the space’s attractiveness, making it a vibrant and inspiring place for community engagement.



Figure 6. Design rendering of the small square of the third space.

5.3.3. Art installation design: Based on “Curved Brook for Drinking and Poetry”

Drawing inspiration from the historical-cultural activity, the “Curved Brook for Drinking and Poetry” captures the essence of gathering by a flowing brook to engage in poetry and drinking [34]. The “Curved Brook for Drinking and Poetry” art installation in Butong Arts Town is a fusion of traditional culture and contemporary design (Figure 7). Inspired by an ancient cultural activity where people gathered by

the water to recite poetry and drink, this installation revitalizes this historical element through contemporary design techniques, giving it new life [34]. This design pays homage to ancient practices and reimagines them in a contemporary context, creating a compelling and interactive space.



Figure 7. Design rendering of “Curved Brook for Drinking and Poetry” art installation.

The installation utilizes flowing water to create an immersive environment that enhances the interaction between the landscape and visitors. This design approach effectively blends art with space, transforming the installation from a static piece into a dynamic and engaging experience. Moreover, the “Curved Brook for Drinking and Poetry” serves as a platform for cultural transmission and interaction. It facilitates meaningful exchanges between visitors and local residents by the water, allowing them to experience the profound cultural heritage and historical depth embedded in the installation. This interaction underscores the installation’s role as an artistic feature and a living conduit for cultural connection and continuity.

5.3.4. Plant landscape design: Combination of local characteristics and nature

As one of China’s renowned tourist destinations, Qinhuangdao’s Butong Arts Town attracts numerous specific groups and art enthusiasts with its unique design theme and diverse plant elements. The plant selection within Butong Arts Town embodies the design philosophy of harmonious coexistence between landscape and humanity. The priority is given to local plant species that are well-adapted to the environment, easy to maintain, and reflective of Qinhuangdao’s regional characteristics, thereby creating a distinctive artistic atmosphere, responding to the integration of Chinese classical garden thought into contemporary art [35].

Plants are strategically used to divide the space into different functional zones. For instance, tall trees and shrubs are planted around the artists’ creation areas to form relatively private creative spaces. In contrast, flowering plants and lawns are used in the rest areas to create a corresponding artistic and cultural ambiance. Using plants’ colors, forms, and varieties aims to craft a visual effect that exudes classical artistic

charm. This thoughtful integration of local flora enhances the aesthetic appeal of Butong Arts Town. It supports ecological sustainability and cultural expression, creating a vibrant space for artistic creation and leisurely enjoyment.

5.3.5. Pavement and material design: Environmentally friendly and local materials

By thoughtfully selecting and applying various paving materials and designs, Butong Arts Town aims to create a cohesive space that serves its functional purposes and reflects Qinhuangdao's unique historical and cultural identity. This approach ensures a harmonious and engaging environment for artists, residents, and visitors alike. The paving design in Butong Arts Town focuses on functional layout and overall aesthetic effect.

The primary consideration in paving design is functionality. Different materials and paving methods are employed in various functional zones, such as the artists' creation areas, specialty greenways, and leisure entertainment areas (**Figure 8**). This differentiation ensures that the paving meets the specific needs of different user groups in each region. For instance, paving materials in the artist creation zones might be chosen for durability and ease of maintenance, while materials in leisure areas might focus on comfort and aesthetic appeal. In addition, Qinhuangdao is rich in historical heritage and cultural ambiance. The paving design of Butong Arts Town could incorporate these historical and cultural elements as a unique design language. For example, using stones or patterns characteristic of Qinhuangdao can showcase the region's historical and cultural depth. In the specialty greenway areas, the paving materials might be selected to harmonize with Qinhuangdao's natural environment, using colors and textures that blend seamlessly with the surrounding landscape.



Figure 8. Design rendering of paving materials for the sunken courtyard.

6. Conclusion

The gardening philosophy of Chinese classical gardens is an integral part of

China's rich traditional culture, reflecting ancient scholars' understanding of nature and humanity and embodying aesthetic and philosophical values. With the progression of time, integrating the principles of Chinese classical garden gardening into contemporary space design has emerged as a critical issue in contemporary public space design. This study uses the Butong Arts Town in Qinhuangdao as a case study, focusing on applying Chinese classical garden gardening concepts in public space design and regional micro-renovation. Special attention is given to nodes that simultaneously serve interactive and recreational functions.

In the micro-renovation of the Butong Arts Town area, Chinese classical garden gardening principles can be employed through greening, landscaping, and other means to enhance the quality of the space. Additionally, by integrating local cultural characteristics, it is possible to create public spaces with distinct regional features, providing a comfortable and pleasant environment for specific groups. Multiple methods are used in this research to explore the behavioral characteristics and usage needs of specific groups from various perspectives. The primary aim of this study is to optimize activity spaces, identify the main issues within the target areas, and propose corresponding improvement measures.

In summary, this research, set against the backdrop of the development of art towns in China, explores the application of classical elements from Chinese classical garden spaces in contemporary space design. An in-depth study of the Butong Arts Town's actual site conditions in Qinhuangdao is conducted. This design brings together the philosophies and techniques of classical Chinese gardens with modern design ideas to create a culturally and artistically rich space within Butong Arts Town. It aligns with people's growing spiritual needs and community spaces, offering fresh ideas for sustainable space design. By weaving art into the town's unique character, this approach highlights the importance of traditional Chinese culture and gardening techniques in shaping distinct cultural areas, inspiring new models for sustainable and culturally meaningful town development. Incorporating these traditional elements also helps create a uniquely Chinese approach to community building, strengthening self-cultural confidence and showcasing Chinese unique vision for urban design.

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