



## Executive Director's Recommendation

Commission Meeting: December 3, 2015

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**PROJECT**

**National China Garden**

United States National Arboretum  
3501 New York Avenue, NE  
Washington, DC

**NCPC FILE NUMBER**

7674

**NCPC MAP FILE NUMBER**

43.20(38.00)44264

**SUBMITTED BY**

United States Department of Agriculture

**APPLICANT'S REQUEST**

Approval of comments on concept design

**REVIEW AUTHORITY**

Federal Project in the District

**PROPOSED ACTION**

Approve with comments

**ACTION ITEM TYPE**

Staff Presentation

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### PROJECT SUMMARY

The United States Department of Agriculture, Agricultural Research Service (USDA-ARS), and the United States National Arboretum (USNA) have submitted concept plans for the National China Garden, a classical Chinese garden to be located on a 12-acre undeveloped parcel within the grounds of the National Arboretum. The site is located two miles from the US Capitol Building in Northeast, Washington DC, it is bordered by Bladensburg Road on the west, New York Avenue on the north, and M Street on the south. Visitor entrances are located on New York Avenue and R Street. The proposed site is situated on the eastern area of the Arboretum, east of Holly Spring Road at its intersection with Meadow Road. Hickey Hill and the Anacostia River are located further to the east. New York Avenue is located approximately a quarter mile to the north. The site's topography consists of a gently sloping meadow against a backdrop of pine trees.

The vision for the National China Garden builds upon the 2004 and 2011 formal agreements between China's State Forestry Administration and the USDA to build a classical Chinese Garden in the nation's capital as a gift to the American people from the People's Republic of China. The purpose of this project is to create the finest example of a classical Chinese garden in the United States, deepening the understanding of garden culture and symbolizing the friendship between nations. The project includes three major types of classical Chinese Gardens: residential, lake, and forest. In addition to the garden itself, the complex will include 26 structures (bridges, walls, open corridors, rockeries and pavilions), art and furnishings arranged around an acre-and-a-half central lake. Finally, the proposal includes a cultural and educational center offering year-round activities and venues for meetings, conferences and special events.

The government of China will donate the design, construction of the buildings, art work, and furniture at a cost of approximately \$62 million, while the US government will provide the site, infrastructure, and maintenance. The project design team has been working jointly since 2003 and

includes a collaboration between Chinese classical garden experts and US design professionals, led by Page Southerland Page and consultants.

## KEY INFORMATION

- The USNA, the only federally-funded Arboretum in the nation, is a 446-acre horticulture research, education and museum facility open to the public. It was established by Congress in 1927 and opened to the public in 1959. The USNA is administered by the US Department of Agriculture's Agricultural Research Service.
- The entire Arboretum has been designated a Category II Landmark and is listed on the National Register of Historic Properties. The road system is determined to be a contributing historic element.
- In 2007, NCPC approved the *U.S. National Arboretum Master Plan Modification and Chinese Garden*, which included the development of a Chinese Garden complex on the current location. In general, the latest concept plan is consistent with the scheme previously reviewed by the Commission, but further refined. The latest plan includes a similar program, yet a more compact layout. The current plan reduces the extent of land disturbance and grading, achieves a cut and fill balance, includes fewer support buildings, and a smaller lake. In addition, the location and alignment of paths have changed in order to improve accessibility and limit vegetation disturbance.
- The 2007 Master Plan concept shifted Holly Spring Road 40 feet to the west in order to reduce grading within the site and did not include a buffer. While, the current scheme provides a 100-foot setback along Holly Spring Road to allow a vegetated buffer and does not shift Holly Spring Road.
- The 2007 concept plan included two stand-alone restrooms and one support building, while the latest concept consolidates these facilities into a single building.
- The 2007 concept included two parking lots off Holly Spring Road: one larger parking lot (24 spaces) and a separate handicap parking area (2 spaces) further south. Two current schemes are under consideration, one scheme provides three smaller parking lots, for visitors (12 spaces), staff (6 spaces) and service (6 spaces). While the second scheme relocates the maintenance building, consolidates parking into a single location, and provides parking for visitors (12 spaces) and staff (8 spaces).
- The previous concept located the White Pagoda, a 69-foot tall structure, at a higher elevation. The latest plan locates the White Pagoda at a lower elevation to minimize its visual impact.
- The 2007 concept included an additional "Breeze" pavilion at the top of the hill to the east. This pavilion and associated paths have been eliminated in the current design due to accessibility constraints, related to grading and disturbance to the existing trees on the slope.
- All the above ground structures in the National China Garden will be designed and constructed by Chinese designers and craftsmen, using traditional Chinese architectural principles. The US team will design and construct the Support Building which will house administrative and maintenance personnel. The Arboretum will assume maintenance once the project is completed.

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- The gardens throughout the project are designed and named by the Chinese design team, each representing the senses and experiences of the environment. The main structures include: Ge Garden, Mountain House of Sliced Stones, Floating Fragrance Hall, White Pagoda, and Five Pavilion Terrace.
  - The arrangement and views of the proposed elements represent traditional Chinese Garden techniques and reflects ancient philosophies such as Taoism, Confucianism and Buddhism. The proposed garden elements represent a composition of replicas of the most representative classical gardens existing in China.
  - Classical Chinese gardens include five key components: rocks, water, scenic views, plants and artwork.
  - On July 16, 2015, the Commission of Fine Arts approved the concept subject to the provision of additional plans at an intermediate scale for each precinct that include additional information on scale, topographic alterations, buildings, materials and interpretation.
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## RECOMMENDATION

The Commission:

**Comments favorably on** the concept design for the National China Garden at the United States National Arboretum.

**Notes** that an important principle of the traditional Chinese Garden is the formal arrangement of built and natural elements and their relationship to one another. As the design develops, it will be important to understand how the garden expresses itself internally *and* its relationship to its immediate setting within the Arboretum and the broader city context.

**Recommends** the applicant to continue to work closely with NCPC, the US Commission of Fine Arts, and the District of Columbia State Historic Preservation Office to improve the design, and consider the following prior to submitting for preliminary review:

### Views and Lighting

- Provide additional simulations indicating views and vistas, both to and from the garden, in order to better understand:
  - The relationship of the China Garden within the Arboretum context, and the relationship between the structures and landscape.
  - The implications of changes to topography and the height of the proposed structures within the garden complex.
  - Pedestrian views along Holly Spring Road indicating the walled gardens and other vantage points within the garden.
  - The visual impacts of height, scale, and topography of the proposed White Pagoda, and Five Pavilion Terrace on Washington's skyline.
- Minimize light pollution from the garden complex in the surrounding neighborhoods.

- Consider the placement, intensity, and programming of lighting as to not detract from the views to important symbols and civic buildings, particularly within the Arboretum setting.

#### Accessibility and Circulation

- Identify locations for tram stops, bus drop off areas, and bicycle racks.
- Explore opportunities to improve pedestrian circulation, considering hierarchy and scale, to provide a sense of orientation around the garden.
- Analyze the impacts of accessible routes, including paths, ramps, and handrails, in relationship with the topography and landscape.

#### Pedestrian Amenities

- Provide benches as appropriate along the paths to enhance the pedestrian experience, considering shade and views to and from the garden.
- Integrate wayfinding and interpretive signage throughout the garden to express the China Garden's mission, and highlight the history and name of the proposed structures.

#### Landscape and Sustainability

- Identify and protect specimen trees, minimize tree cutting and other vegetation removal; where the removal is necessary, replace trees to prevent net tree loss.
- Analyze proposed plant list to avoid introducing invasive species.
- Consider water-efficient irrigation systems and water efficient landscaping to reduce irrigation needs.
- Consider low impact development strategies to manage stormwater and reduce runoff to the Anacostia Watershed, including permeable paving or other porous material along the paths and parking areas.

#### General Comments

- Provide a vegetated buffer to screen the maintenance building along Holly Spring Road.
- Pending the visual study of viewsheds noted above, examine alternative locations for the White Pagoda.
- Consolidate parking as feasible to provide a more efficient layout and limit ground disturbance.
- Ensure that the proposed structures, including service buildings, have a compatible architectural vocabulary consistent with the garden complex.

**Requests** a stormwater management plan, prepared in accordance with the Commission submission guidelines, that addresses compliance with the District Department of Energy and Environment (DOEE) and Section 438 of the Energy Independence and Security Act (EISA) regulations.

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## PROJECT REVIEW TIMELINE

<b>Previous actions</b>	<b>September 2000</b> – Approval of US National Arboretum Master Plan. <b>February 2007</b> – Approval of US National Arboretum Master Plan Modification and Chinese Garden.
<b>Remaining actions</b> (anticipated)	Preliminary and Final Approval

## PROJECT ANALYSIS

### Executive Summary

The National China Garden will provide a unique cultural destination at the Arboretum. The project is consistent with the *Federal Elements of the Comprehensive Plan of the National Capital*. In particular the project meets the goals and objectives of the *Parks and Open Space, Federal Environment and Preservation and Historic Features Elements*. The project is also consistent with the approved *2007 United States National Arboretum Master Plan Modification*. The project goal is to create the finest example of a classical Chinese garden in the United States in an environmentally sensitive manner, and provide a venue for meetings, conferences, special events, public tours and year-round educational activities. The proposal will reinforce the mission of the Arboretum as a premier horticultural research, education and public garden and enhance the visitor experience. Therefore, staff recommends that the Commission **Comments favorably on the concept design for the National China Garden at the United States National Arboretum.**

### Analysis

Staff reviewed this project determining its consistency with the Arboretum Master Plan and the Comprehensive Plan of the National Capital. *The Arboretum Master Plan Modification* approved by the Commission in 2007 focused on the eastern half of the Arboretum and included a new Chinese Garden complex along Holly Spring Road; development of an Anacostia waterfront access path; accessible pedestrian trails within the Asian Collection; new tram stops; and realignment of Holly Spring and Hickey Hill Roads. In addition, the master plan outlined a general development framework of land-uses. Therefore, the project is consistent with the previous Arboretum Master Plan which included the concept design for a Chinese Garden complex.

The project builds upon formal agreements between the United States and China in 2004 and 2011 to showcase traditional Chinese garden culture and create a unique cultural destination in the nation's capital.

On February 1, 2007, the Commission approved the *National Arboretum Master Plan Modification* and commented favorably on the concept site design for the Chinese Garden. At the time, the Commission noted that the Chinese Garden perimeter must demonstrate, in its progress

design, full incorporation of additional new planting of tree species. In addition, the Commission emphasized that further design review of the character development for the boundary of the garden adjacent to Holly Spring Road should be undertaken by the Arboretum to reduce the full impact of the 20-plus new structures that would be placed into the setting of this area.

Although the current submission is still at concept level, the location, program and general design components have not changed since the 2007 Master Plan approval. The latest plan includes modifications to address previous Commission comments. The current plan is more compact, reduces the extent of land disturbance, grading and tree removal, includes fewer buildings, and reduces the lake size. While the site location is consistent with the master plan, the current development minimizes the impacts on the eastern tree canopy involving the existing White Pine trees. Currently, there is a stand of White Pines with a V-shaped opening on the slopes east of Holly Spring Road that allows views into the Chinese Garden site. According to the applicant, these pines are in poor condition. The 2007 concept plan included significant removal and reforestation of the stand of White Pine trees to maintain the view and design intent of the Chinese Garden. The current plan, does not entail the removal of the large stand of pines; however, the applicant has stated that some of the trees in this area will be removed due to their poor condition. Regarding previous concerns about building massing and a buffer adjacent to Holly Spring Road, the current plan includes a 100-foot vegetated buffer along Holly Spring Road to reduce the impacts of the proposed structures. In addition, the proposal includes trees along the garden perimeter to provide a transition to the surrounding landscape.

Since the 2007 China Garden concept, the organic shape of the lake has changed slightly as a result of the 100-foot security setback adjustment along Holly Spring Road. The change in size is not only related to surface area, but in an effort to reduce the amount of cut required for the lake. The entire garden also shifted north, away from the wooded slope to reduce the impact on grading within the slope.

The proposed garden showcases three types of traditional Chinese gardens: residential, urban forest and lake gardens. Some of the structures within each garden type have a dual relationship with each other. The proposal includes 26 structures, ranging in height from 12 to 69 feet. These include:

- 8 Enclosed Pavilions
- 6 Open Pavilions
- 2 Wall Structures
- 1 Mount
- 1 Rockery
- 4 Open Corridors
- 2 Stone Bridges
- 1 Landscape Element (White Pagoda)
- 1 Support/Service Building

The arrangement, number and views of the proposed elements represent traditional Chinese Garden techniques and reflects ancient philosophies such as Taoism, Confucianism and Buddhism. The proposed garden elements represent a composition of replicas of the most representative classical Chinese gardens in the cities of Yangzhou, Suzhou and Hangzhou. The design team surveyed some of these existing precedents to determine the proportion and number of proposed structures. The design intent reflects a "simplified" strategy which means providing less structures than the existing garden compounds in China. Except for the Five-Pavilion Terrace and the White Pagoda, the structures in the National China Garden are either the same size or slightly bigger (e.g. Floating Fragrance Hall) than their counterparts in China. According to the applicant, the existing White Pagoda precedent in Yangzhou, China is 90 feet tall. The proposed White Pagoda is 69 feet, which represents an 80% height reduction. The White Pagoda shows influences of Buddhism and the Five-Pavilion Terrace symbolizes Taoism, they are an example of forest garden type. Both structures are part of the same compound in China and complement each other like "twins". Therefore the Chinese designers used the same scale factor in both structures, the proposed Five-Pavilion Terrace is 33 feet tall. In addition, the platform for the Five-Pavilion Terrace is much lower than the precedent in China.

The proposed complex includes two residential gardens: Ge Garden and Mountain House of Sliced Stones. Although they both represent residential gardens, they use different methods to create garden spaces. Ge Garden features four main sections to represent four seasons with pavilions and rockeries as main elements, and offers different viewpoints to experience the garden. While the Mountain House of Sliced Stones employs corridors to connect different pavilions within a modest space and enrich the visitor experience. The garden experience, not only includes corridors, pavilions and rocks, but courtyards decorated with water elements and plants. In addition to their size and composition, these two gardens express different emotions which reflect how people relate to nature. According to the design team, the Ge garden reflects joy and excitement, while the Mountain House of Sliced Stones offers a place for reflection and contemplation. Therefore, **staff notes that an important principle of the traditional Chinese Garden is the formal arrangement of built and natural elements and their relationship to one another. As the design develops, it will be important to understand how the garden expresses itself internally and its relationship to its immediate setting within the Arboretum and the broader city context.**

**Staff recommends the applicant to continue to work closely with NCPC, the US Commission of Fine Arts, and the District of Columbia State Historic Preservation Office to improve the design, and consider the following prior to submitting for preliminary review:**

#### Views and Lighting

As mentioned above, the proposed garden includes representation of three types of classical Chinese gardens:

- (1) Private residential gardens, which are surrounded by a wall;
- (2) Gardens close to water, which includes terraces, corridors, pavilions on the edge of the lake; and

- (3) Gardens in the forest, which includes a single structure located on a hill, which is partially hidden behind the trees but partially visible from afar.

An important concept with all three types is the relationship between built and natural elements within the garden itself.

Given that the Arboretum is designated as a Category II Landmark, and the location of the proposed garden is adjacent to Hickey Hill overlook, which raises approximately 150 feet above mean sea level, the design should avoid impacting potential historic view sheds. The proposed “garden in the forest” structures, the White Pagoda and Five-Pavilion Terrace, are located on top of the hill consistent with traditional Chinese precedents. These structures are the tallest elements in the garden complex and will stand out within the Chinese Garden.

During the interagency site visit on August 14, 2015, staff noted that there is a potential narrow view of Washington created by a break in the pine tree stand to the west of Hickey Hill Road, existing views include Catholic University and the National Cathedral. Originally the pagoda was located in the existing clearing to minimize tree removal. After the site visit, the design team provided a second alternative with a revised location of the White Pagoda, out of the existing clearing and into the woods to avoid view impacts. Further, the density of the proposed structures and walls surrounding the gardens will change the character along Holly Spring Road, specifically the location of the two private residential gardens along the road, Ge Garden and Mountain House of Slide Stones. Therefore, additional viewshed studies are required to better understand the proposed new location of the Pagoda and its context, and well as the character and edge treatment along Holly Spring Road.

Currently, the Arboretum gates are locked daily at 5:00 p.m. The Arboretum is open at night for special events only, including the *Full Moon Hike*. This is a moderately strenuous hike to appreciate the beauty of the Arboretum at night. This event consist of an approximately four miles hike at a brisk pace over hilly and uneven terrain for two hours with minimal stop. There is no existing permanent lighting display at night.

The China Garden proposal includes a site and landscape lighting approach to allow visitors to safely navigate throughout the site, highlight significant architectural and landscape details, and provide an engaging and visually dynamic experience. According to the applicant, this will be achieved by carefully selecting lighting fixtures, locating them at pathways, bridges, landscaping, parking areas, and the exterior of structures. Given the height of the proposed structures, the topography, the proximity to residential neighborhoods and potential views to Washington, DC, staff recommends to study lighting impacts further.

The *Preservation and Historic Features of the Comprehensive Plan*, includes policies regarding views and lighting. With regards to views, the policies contain to protect the setting of historic properties, including views to and from the sites where significant, as integral parts of the historic character of the property; protect and enhance vistas and views, both natural and designed that are integral part of the national capital's image. Regarding lighting, the policies include to design exterior lighting to contribute to the capital's nighttime image and suggest an appropriate hierarchy

among the symbols and features on the nation's capital. Therefore we offer the following comments:

- Provide additional simulations indicating views and vistas, both to and from the garden, in order to better understand:
  - The relationship of the China Garden within the Arboretum context, and the relationship between the structures and landscape.
  - The implications of changes to topography and the height of the proposed structures within the garden complex.
  - Pedestrian views along Holly Spring Road indicating the walled gardens and other vantage points within the garden.
  - The visual impacts of height, scale, and topography of the proposed White Pagoda, and Five Pavilion Terrace on Washington's skyline.
- Minimize light pollution from the garden complex in the surrounding neighborhoods.
- Consider the placement, intensity, and programming of lighting as to not detract from the views to important symbols and civic buildings, particularly within the Arboretum setting.

#### Accessibility and Circulation

Based on the 2007 USNA Master Plan, a portion of Meadow Road and Conifer Road will be removed in order to make room for the garden complex. In addition, the proposed master plan included tram stops at new and renovated attractions within the Arboretum, including a new tram stop at the main entrance to the Chinese Garden. However, the current design does not include a tram stop.

Based on the submission materials, some of the proposed structures are non-occupiable landscape elements, therefore they will not be accessible to the public, but visible from certain vantage points, including the Touching Cloud Pavilion; the White Pagoda; the Summer Mount and Fall Mount, in Ge Garden; the Crane Pavilion on the top of Summer Mount, and the rockeries in Mountain House of Sliced Stones.

The project narrative includes accessibility recommendations for achieving compliance with the American with Disabilities Act (ADA), however, these recommendations have not been implemented into the design. The American and Chinese design team continue to coordinate those recommendations for inclusion into the preliminary design submittal.

Regarding circulation, the applicant states that most visitors will arrive to the National China Garden by tram, walking and biking. Handicap parking will be provided in addition to parking for visitors and staff, which is consistent with the project goal to design an accessible garden in compliance with ADA standards. Based on the topography, the program of the garden, including educational and cultural year-round events, and the expected visitor capacity (300,000 visitors per year). Staff offers the following recommendations:

- Identify locations for tram stops, bus drop off areas, and bicycle racks.
- Explore opportunities to improve pedestrian circulation, considering hierarchy and scale, to provide a sense of orientation around the garden.

- Analyze the impacts of accessible routes, including paths, ramps, and handrails, in relationship with the topography and landscape.

#### Pedestrian Amenities

As the design moves forward, we recommend that the applicant to consider pedestrian amenities to improve the visitor experience:

- Provide benches as appropriate along the paths to enhance the pedestrian experience, considering shade and views to and from the garden.
- Integrate wayfinding and interpretive signage throughout the garden to express the China Garden's mission, and highlight the history and name of the proposed structures.

#### Landscape and Sustainability

The current design is more compacted, has a more efficient layout, and minimizes land disturbance area. However some trees will need to be removed to construct the garden. In addition, the applicant provided a plant list analysis produced by the Chinese design team, which indicates that some of the plants are not available in the US, in an effort to avoid the appearance of a generic list, the design team is considering whether the plants could be imported from China. The design team feels that the concept and interpretive intent of the Chinese team's design should guide the planting design, rather than relying only on what is currently available in the commercial nursery trade in the US.

The *Federal Environment Element*, includes policies to improve the water quality in the Anacostia River, discourage large paved parking areas, and use pervious surfaces to reduce erosion and avoid pollution of surface waters. The Parks and Open Space Element, includes policies to preserve and protect forested areas in their natural conditions, minimize tree cutting and other vegetation removal to reduce soil erosion, particularly large stand of trees. Therefore, we offer the following comments regarding landscape and sustainability:

- Identify and protect specimen trees, minimize tree cutting and other vegetation removal; where the removal is necessary, replace trees to prevent net tree loss.
- Analyze proposed plant list to avoid introducing invasive species.
- Consider water-efficient irrigation systems and water efficient landscaping to reduce irrigation needs.
- Consider low impact development strategies to manage stormwater and reduce runoff to the Anacostia Watershed, including permeable paving or other porous material along the paths and parking areas.

#### General Comments

Due to the unique nature of the project, the specific requirements related to composition of elements and views, it has been challenging to develop two different alternatives without impacting the integrity of the traditional Chinese garden design. In order to comply with NEPA requirements and provide a range of reasonable alternatives, staff has been working with the applicant to develop a second alternative that will ultimately improve the final design. Although the alternatives are very similar due to project constraints, they provide different solutions to resolve design issues related to service and parking areas. The first alternative includes the White

Pagoda in the tree clearing to minimize tree removal, the second alternative moves the Pagoda out of the clearing to avoid impacts on potential historic viewsheds. In addition, the second alternative includes a 0.5-acre (22,453 square feet) overflow parking area on supported grass land, a relocated maintenance building, consolidated parking, and an additional restroom to compensate for the relocation of the maintenance building to the northwest corner of the site.

We provide the following general comments regarding the alternatives:

- Provide a vegetated buffer to screen the maintenance building along Holly Spring Road.
- Pending the visual study of viewsheds noted above, examine alternative locations for the White Pagoda.
- Consolidate parking as feasible to provide a more efficient layout and limit ground disturbance.
- Ensure that the proposed structures, including service buildings, have a compatible architectural vocabulary consistent with the garden complex.

#### Stormwater Management

Currently, the site is nearly all pervious, including meadow, woodlands, shrubs, specimen trees, and roadways. The proposed garden include new courtyard paving, which will need to be set in mortar as the paving patterns are made of small pieces, like mosaics. Therefore, the paving will not be pervious inside the courtyards. For pathways exterior to the courtyards, the design team plans to use pervious paving wherever possible, similar to the treatment used at the Flowering Tree Walk at USNA, approved by the Commission in June, 2014. In addition to using pervious paving for new paths, the design will include bio-retention areas to capture and treat storm water. Therefore, **staff recommends that the Commission requests a stormwater management plan, prepared in accordance with the Commission submission guidelines, that addresses compliance with the District Department of Energy and Environment (DOEE) and Section 438 of the Energy Independence and Security Act (EISA) regulations.**

## **CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE**

### **Comprehensive Plan for the National Capital**

Staff finds that this proposal is not inconsistent with the *Comprehensive Plan for the National Capital*, specifically policies in the Parks and Open Space, and Federal Environment and Preservation and Historic Features Elements. These policies encourage the federal government to enhance parks and open space as a means of shaping and enhancing urban areas. In addition, the federal government should conserve and maintain the essential open space character of areas in the region that contribute to the setting of the National Capital Region. The National China Garden will facilitate cultural and educational events, such as tea, calligraphy, and music festivals. The project will create a destination and improve the visitor experience on an undeveloped parcel within the Arboretum. It will not damage significant existing resources or adversely impact adjacent neighborhoods. In addition the project will provide low impact development strategies to reduce stormwater runoff and impacts on water quality in the Anacostia River. Lastly, the China Garden complex includes good design principles that strengthen the image of the nation's capital.

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### **Relevant Federal Facility Master Plan**

The proposal is consistent with the Arboretum master plan of 2000 and revised master plan of 2007 approved by NCPC. In 2000, a Master Plan was completed to guide future development within the National Arboretum for the next 25 years. In 2007, a large donation by the Chinese Government provided the Arboretum an opportunity to develop a Chinese Garden complex that would highlight the cultural history of Chinese architecture and gardening. The revised master plan outlined a general development framework of land-uses on the eastern sector of the Arboretum, which is consistent with the current proposal. In addition to the development of the garden, the master plan included the development of an Anacostia waterfront access path; new accessible pedestrian trails within the Asian Collection; new tram stops; realignment of Holly Spring and Hickey Hill Roads; and construction of decorative security entrances to the Arboretum from the Anacostia River. According to the applicant, none of these improvements have been implemented, however, they are part of the "USNA Capital Projects and Repair Plans" request-for-funding list.

### **National Historic Preservation Act**

NCPC and ARS each have an independent responsibility to comply with Section 106 of the National Historic Preservation Act (NHPA). ARS formally initiated consultation with the District of Columbia State Historic Preservation Officer (DC SHPO) on May 21, 2015. A Section 106 consultation meeting was held on June 11, 2015 to present the alternatives under consideration and solicit comments from consulting parties. Due to potential archeological impacts on the site, the applicant indicated that archeological survey fieldwork is expected to begin between mid-December and mid-January, with research beginning this month.

### **National Environmental Policy Act**

NCPC and ARS each have an independent responsibility to comply with the National Environmental Policy Act (NEPA); NCPC's responsibility stems from its approval authority over the project. ARS is serving as the lead federal agency in the preparation of an Environmental Assessment (EA) and NCPC is a cooperating agency on the EA. A public scoping meeting was held on May 27, 2015 to inform the public, interested stakeholders, and agencies of the project and solicit feedback on environmental issues.

## **CONSULTATION**

### **Coordinating Committee**

The Coordinating Committee reviewed the proposal at its November 10, 2015 meeting. The Committee forwarded the proposal to the Commission with the statement that it has been coordinated with all participating agencies. The participating agencies were: NCPC; the District of Columbia Office of Planning; the District of Columbia Department of Transportation, the General Services Administration; the National Park Service and the Washington Metropolitan Area Transit Authority.

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## **US Commission of Fine Arts**

At its meeting on July 16, 2015, the US Commission of Fine Arts (CFA) approved the concept design subject to the provision of additional plans at an intermediate scale for each precinct that include further information on the specifics of scale, topographic alterations, buildings, materials and interpretation. CFA commented that the garden design would require careful attention to the scale of paths and other elements to ensure comfortable movement through the space. In addition, CFA stated that the desired floating character of the buildings might be diminished by the inclusion of heavy ramps for accessibility, and encouraged the design team to study contemporary Chinese examples of barrier-free garden access. Lastly, CFA noted that the submission lacked sufficient documentation. The applicant plans to meet with CFA in January 2016.

## **ONLINE REFERENCE**

The following supporting documents for this project are available online:

- Submission Package
- 15% Design Package

Prepared by Vivian Lee  
November 24, 2015

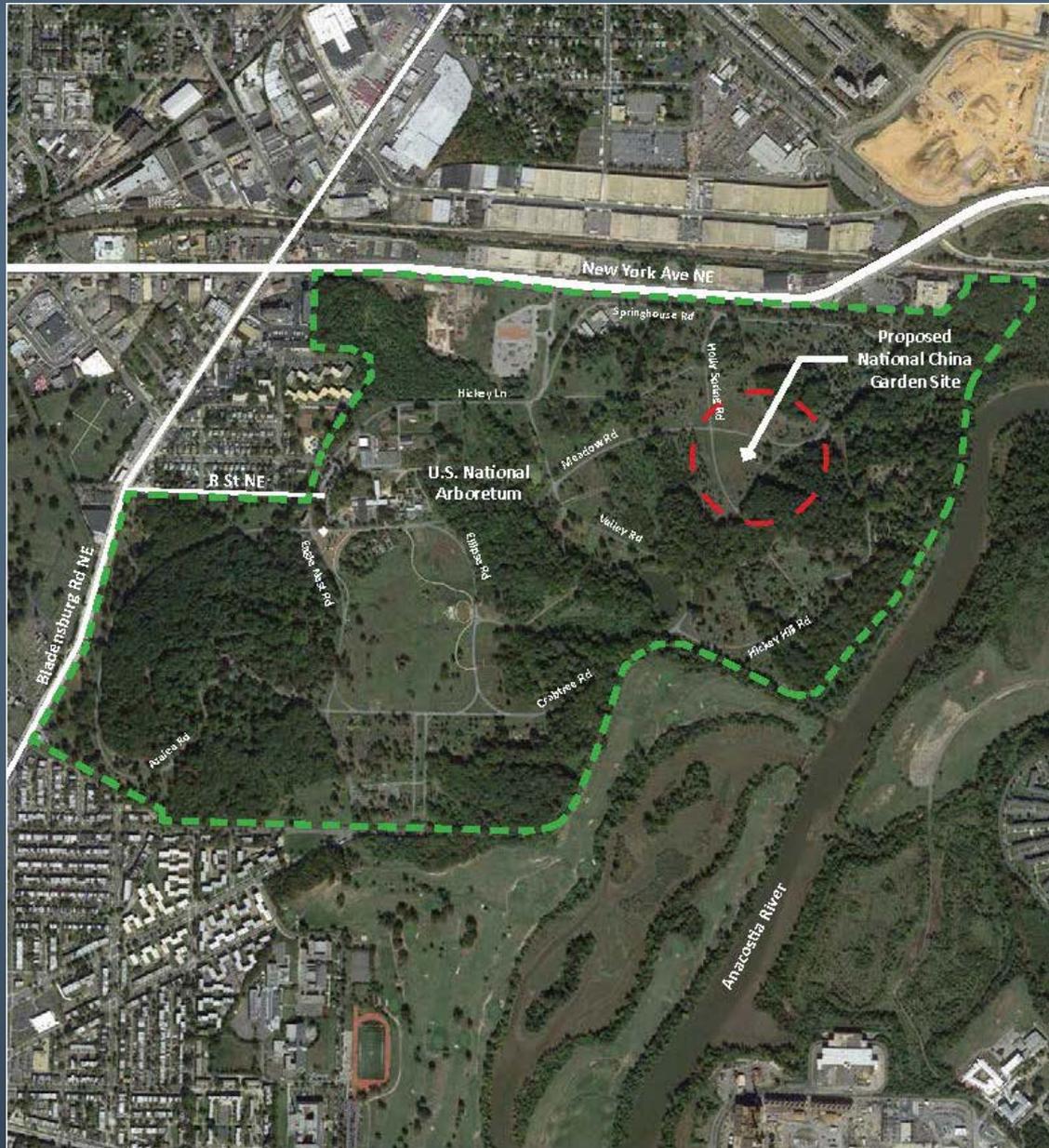
## **POWERPOINT (ATTACHED)**

# NCPC File No. 7674

## Concept Design

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December 3, 2015



--- U.S. National Arboretum Boundary  
--- Proposed National China Garden Site Location

National China Garden  
U.S. National Arboretum, Washington, D.C. 

- 1 Flowering Tree Bank
- 2 Staff Gate
- 3 Tram Bus Stop
- 4 Mount Hamilton Overlook
- 5 Morrison Anales Garden
- 6 Warming Collection
- 7 Friendship Garden & Arbor House
- 8 Capital Columns
- 9 Hi Ho Wall
- 10 Main Tram Stop
- 11 Visitor Center
- 12 Office of Cultivated Plants
- 13 Gate
- 14 Bus Parking
- 15 Parking
- 16 Children's Pavilion
- 17 Events Pavilion
- 18 Adornment Garden
- 19 Growing Garden & Tool Shed
- 20 Family Garden
- 21 Nature Area
- 22 Bird Garden
- 23 Potential Anasostis Waterfront
- 24 Woodwalk Apertures
- 25 Ripple Falls
- 26 Aquatic Garden
- 27 Garden
- 28 Waterfall
- 29 Pond
- 30 Staff Parking
- 31 Court of Honor
- 32 Administration/Research Wing
- 33 Greenhouse Complex
- 34 Nursery/Research
- 35 Polyhouses
- 36 Compost
- 37 Brickyard Historic Site
- 38 Environmental Education Laboratory
- 39 Flowering Tree Walk
- 40 Outer Loop/Asia Trail Improvements
- 41 Maintenance Expansion
- 42 Overlook
- 43 Interpretive Node/Visitor's Center East
- 44 Botanical Collection
- 45 Anales Collections
- 46 Service/Tram/Bus/Staff Access
- 47 Train Bio/Vehicular Access
- 48 National Bonsai & Penjing Museum
- 49 National Herb Garden
- 50 Main Entrance to Anales Collections
- 51 Perennials
- 52 National Grove of State Trees/Petrie Area
- 53 Entrance to Fern Garden Parking - 50 cars
- 54 Handicap Parking/Tram Bus Stop
- 55 Fern Valley
- 56 Lilac/Witch Hazel Research
- 57 Collections
- 58 Beech Forest
- 59 Concert Road to Path
- 60 Service Tree Annual
- 61 Flowering Tree Collection
- 62 Duster Collection
- 63 Maple Collection
- 64 Quail Collection
- 65 Dogwood collection
- 66 Asian Collection
- 67 China Valley - Path Improvements
- 68 Holly, Magnolia, and Viburnum Collections
- 69 Chinese Garden Complex
- 70 Realize Holly Spring Road
- 71 Paved Access Path Along River
- 72 Retaining Wall
- 73 Service Access
- 74 Hamonichs Collection
- 75 Flowering Trees and Mounding

Main Entrance  
Traffic Light

990 Cars  
RV/Bus overflow

CHINA GARDEN SITE



U.S. National Arboretum  
Master Plan

REVISED:  
MARSHALL, THOMAS, & DANESCH, L.L.C. 1000  
DESIGNED BY RHOADESIDE & HARWELL, INC./REPRODUCED 1007

Scale 1"=200'  
0 100 200 400

NORTH

# 2007 Chinese Garden Concept Plan









CHINA GARDEN SITE LOOKING EAST



CHINA GARDEN SITE LOOKING SOUTHWEST

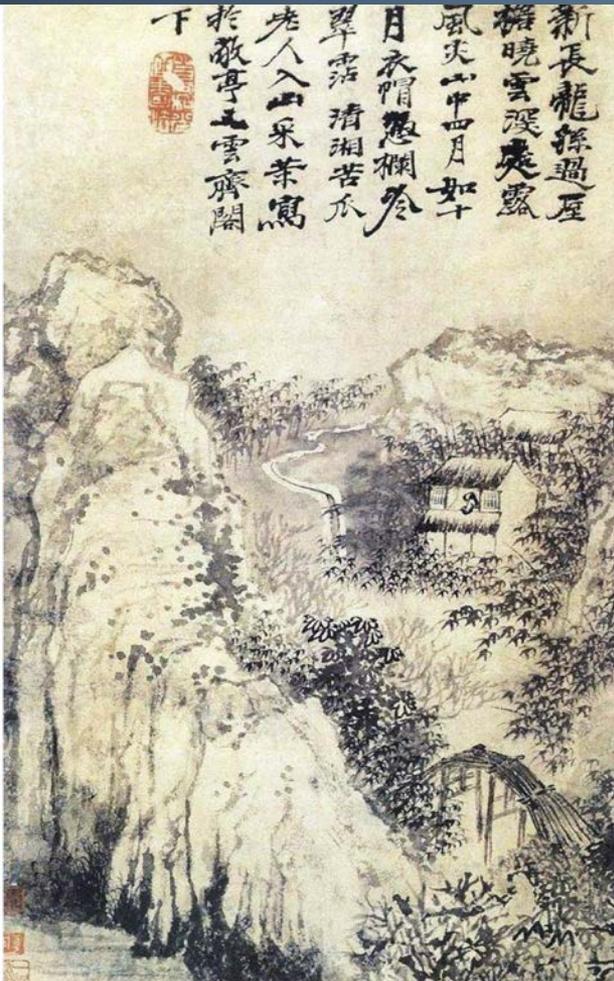


CHINA GARDEN SITE LOOKING WEST FROM HILLTOP



CHINA GARDEN SITE LOOKING SOUTHEAST

# Design Philosophy: Garden Types and Key Elements



Example: a residential garden



Example: a garden on lake



Example: a garden in woods

## FIVE KEY ELEMENTS IN A CLASSICAL CHINESE GARDEN

### Rocks



Chinese scholars used rocks as art in their homes. Large and porous garden rocks are often considered to be among the most valuable in a classical Chinese garden. These ageless objects symbolize the dwellings of Taoist immortals.

### Water



Water is considered to be the central component of a classical Chinese garden, serving as a balance for the other elements found in the garden. The best sites for classical Chinese gardens are on the edges of lakes with views of the mountains.

### Views



The arrangement of structures divides a classical Chinese garden into smaller sections with one or more scenic views. The buildings are designed to accent the garden with windows and doorways that frame scenic views in their courtyards and beyond.

### Plants



Certain plants are favored for classical Chinese gardens because of their association with overcoming the limitations of ordinary life. The pine, cypress, plum and bamboo are favorites because of their ability to grow in harsh weather conditions and rough terrain.

### Artwork



Garden design is considered to be an art form in China, but one will also find other art forms like calligraphy, painting, poetry, dance, flower arranging and viewing stones in a classical Chinese garden.





SERVICE DRIVE  
服务车道

SERVICE ENTRANCE  
(PARKING & LOADING)  
后勤入口 (停车及卸货)

GE GARDEN  
个园

ROCKERIES  
数灵石

MOUNTAIN HOUSE  
OF SLICED STONES  
片石山房

HOLLY SPRING ROAD  
好景康庄

MANAGEMENT &  
RESTROOM BUILDING  
行政办公—卫生间

SQUARE PAVILION  
方亭

LAKE  
湖面  
W.L. 22.00

TAI-CHI ISLE  
太极花台

FISH-VIEWING IN  
FLOWERS  
花港观鱼

FLOATING FRA-  
GRANCE HALL  
远香堂

STONE PILLOWS  
两柯一梦

PEONY PAVILION  
牡丹亭

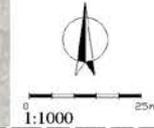
CULTURAL CORRIDOR  
文化长廊

ROCKS &  
CASCADES  
假山瀑布溪渠

WHITE PAGODA  
白塔

PEONY GARDEN  
牡丹园

FIVE-PAVILION  
TERRACE  
五亭台

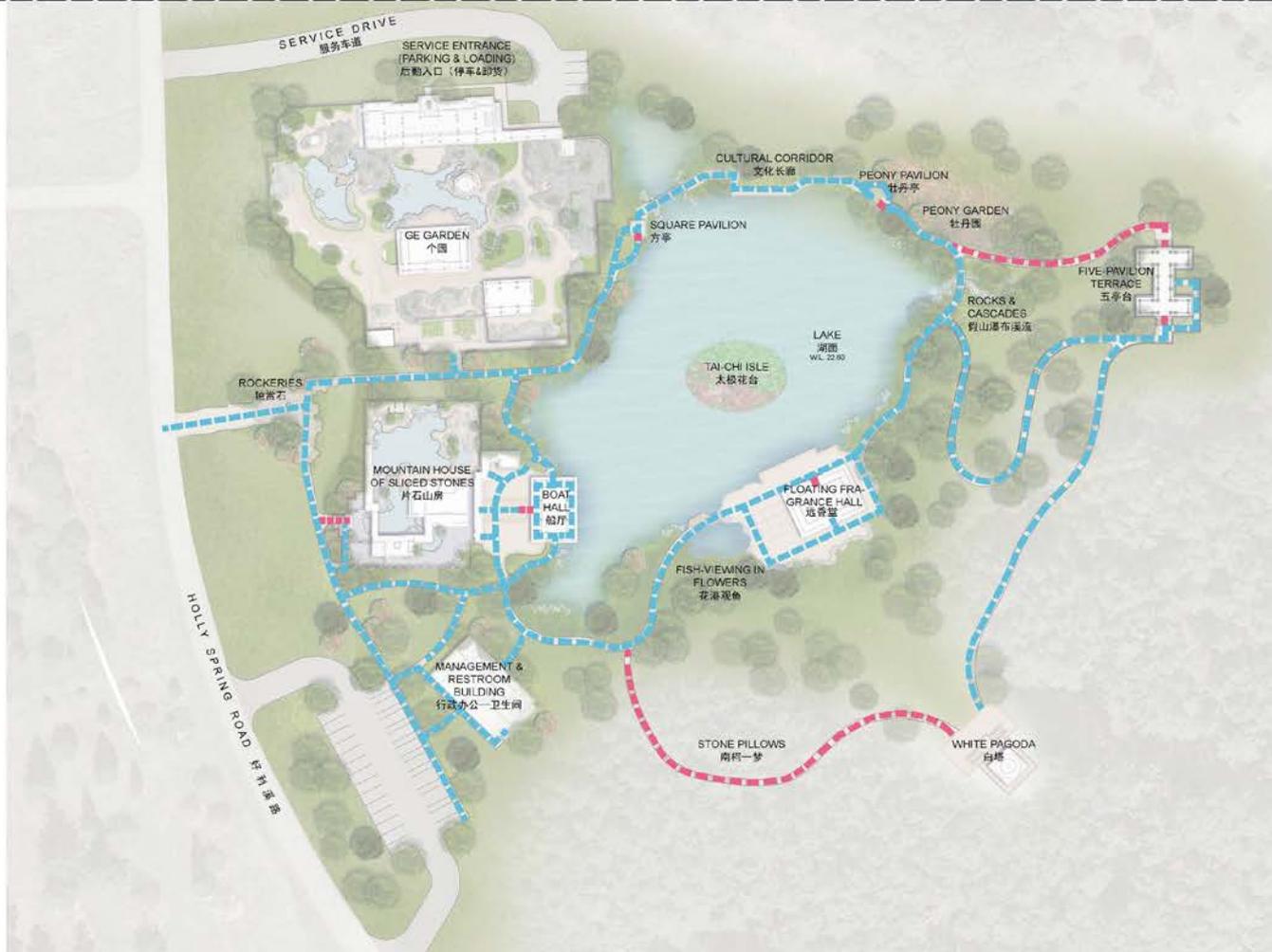


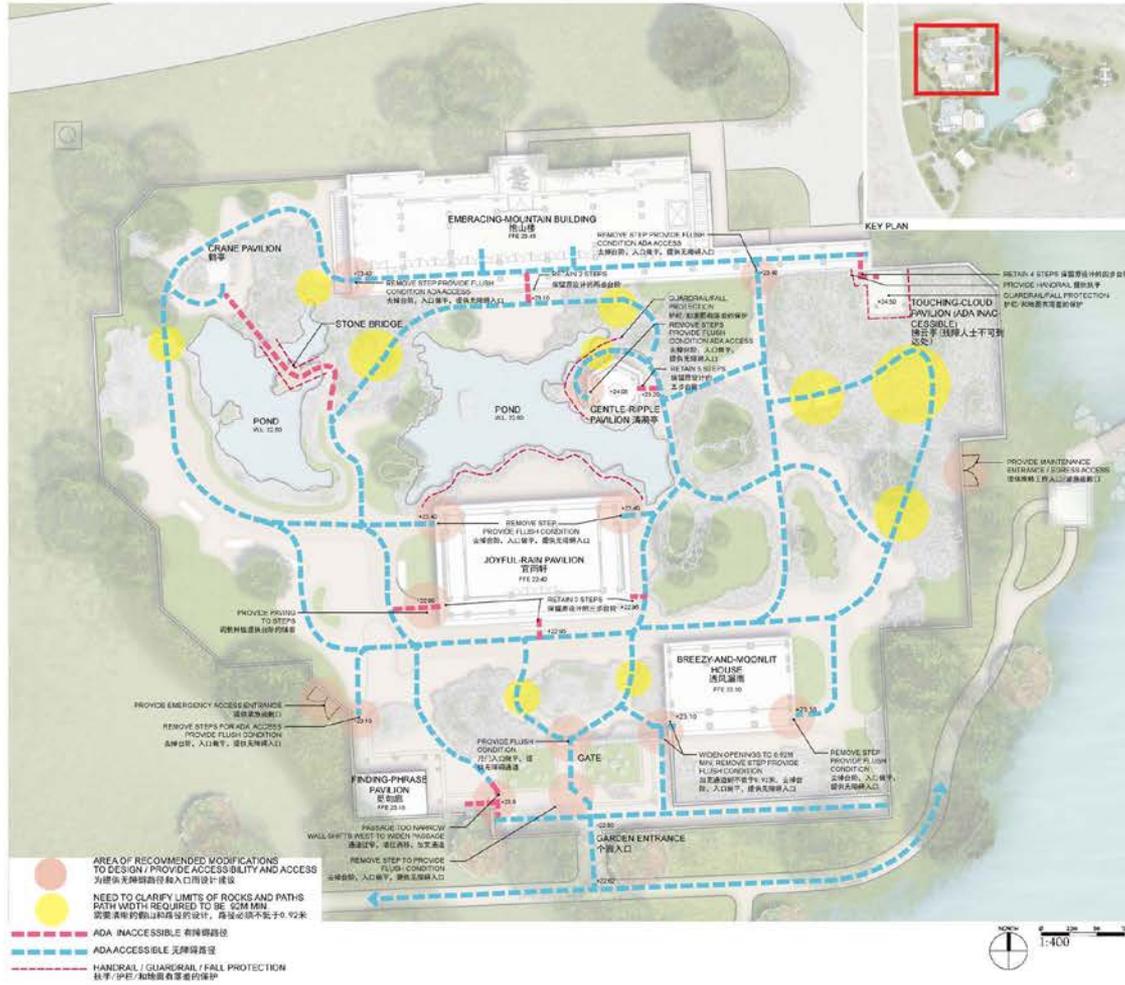


National China Garden Buildings & Structures  
(Concept Design)

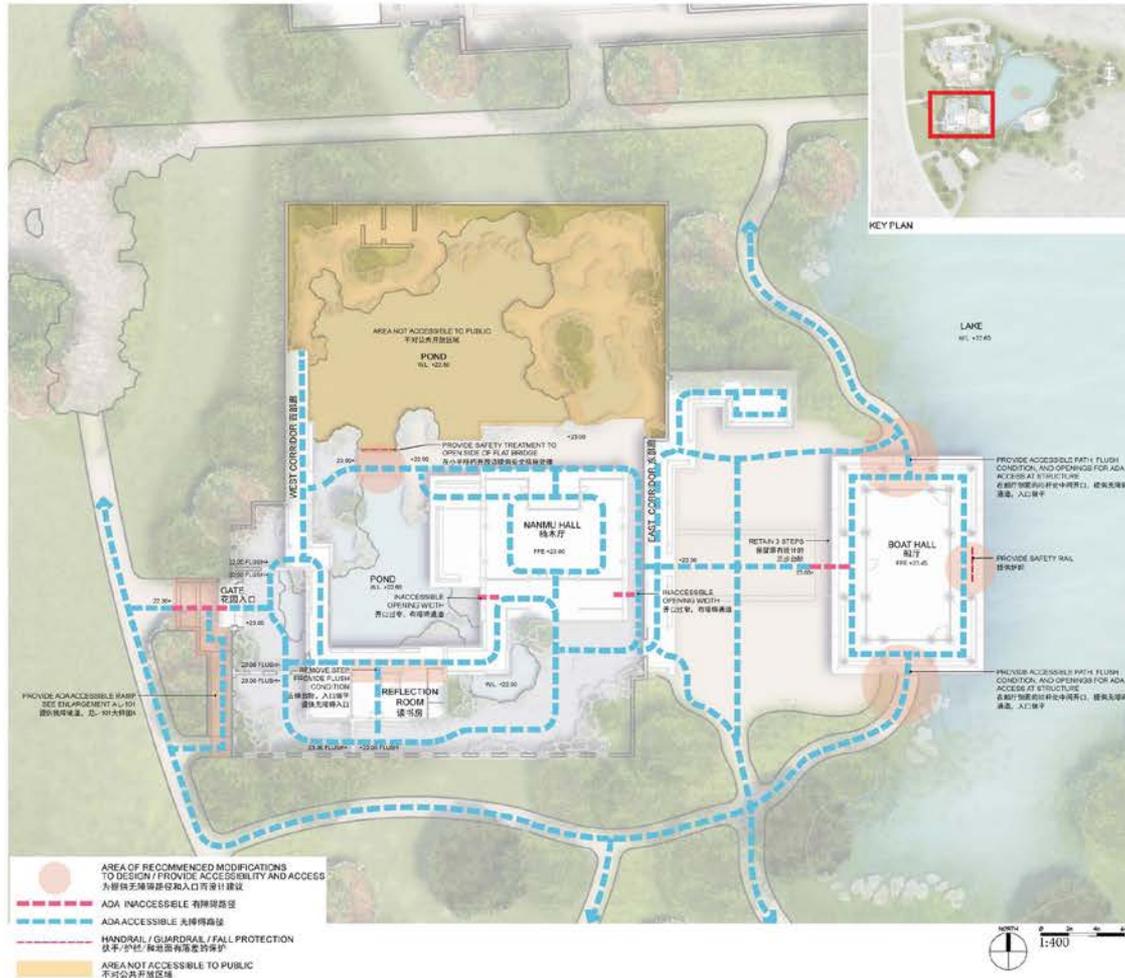
- |     |                              |                   |
|-----|------------------------------|-------------------|
| 1   | Ge Garden Gate:              | Wall Structure    |
| 2   | Finding-Phrase Pavilion:     | Enclosed Pavilion |
| 3   | Joyful-Rain Pavilion:        | Enclosed Pavilion |
| 4   | Gentle-Ripple Pavilion:      | Open Pavilion     |
| 5   | Crane Pavilion:              | Open Pavilion     |
| 6   | Embracing-Mountain Building: | Enclosed Pavilion |
| 7   | Touching-Cloud Pavilion:     | Open Pavilion     |
| 8   | Breezy-and-Moonlit House:    | Enclosed Pavilion |
| 9.1 | Four-Season Rockeries:       | Spring Mount      |
| 9.2 | Four-Season Rockeries:       | Summer Mount      |
| 9.3 | Four-Season Rockeries:       | Fall Mount        |
| 9.4 | Four-Season Rockeries:       | Winter Mount      |
| 10  | Mountain House Gate:         | Wall Structure    |
| 11  | West Corridor:               | Open Corridor     |
| 12  | Reflection Room:             | Enclosed Pavilion |
| 13  | East Corridor:               | Open Corridor     |
| 14  | Nanmu Hall:                  | Enclosed Pavilion |
| 15  | Outer-East Corridor:         | Open Corridor     |
| 16  | Flat Bridge:                 | Stone Bridge      |
| 17  | Rockeries:                   | Rockeries         |
| 18  | Boat Hall:                   | Enclosed Pavilion |
| 19  | Zigzag Bridge:               | Stone Bridge      |
| 20  | Floating-Fragrance Hall:     | Enclosed Pavilion |
| 21  | Peony Pavilion:              | Open Pavilion     |
| 22  | Cultural Corridor:           | Open Corridor     |
| 23  | Square Pavilion:             | Open Pavilion     |
| 24  | Five-Pavilion Terrace:       | Open Pavilion     |
| 25  | White Pagoda:                | Landscape Element |
| 26  | Support Services Building:   | Enclosed Building |

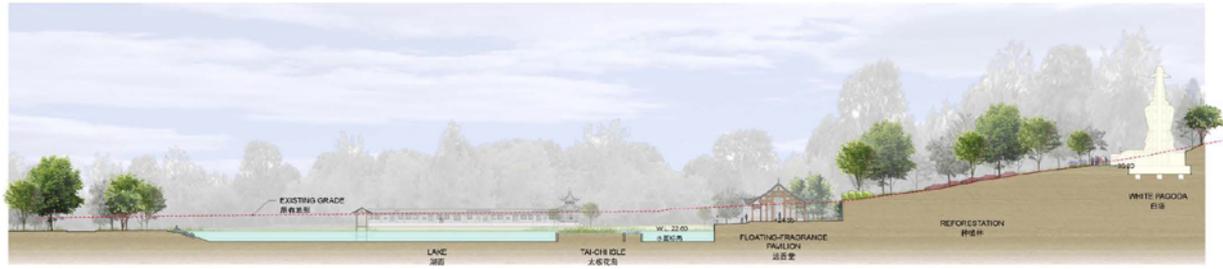






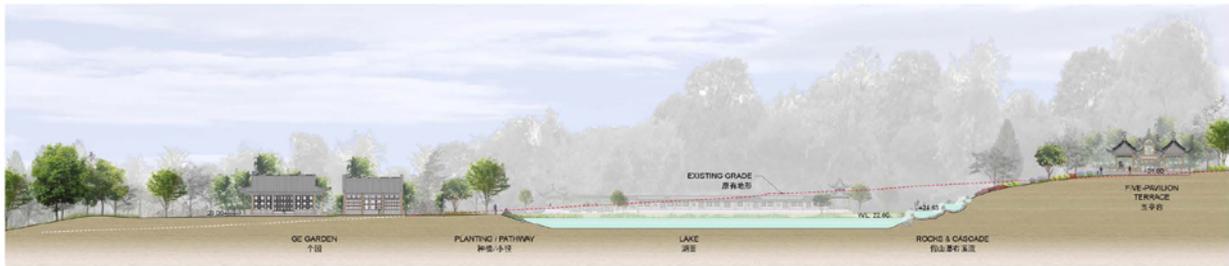
# Mountain House of Sliced Stones Accessibility





1 SITE SECTION A-A 剖面A-A  
SCALE: 1:200

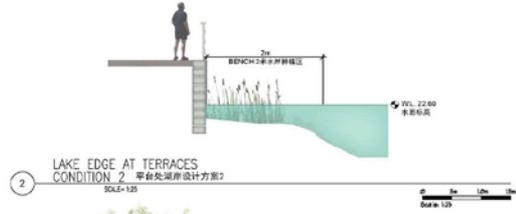
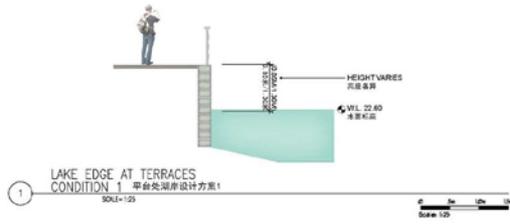
0 4m 8m 12m  
Scale: 1:200



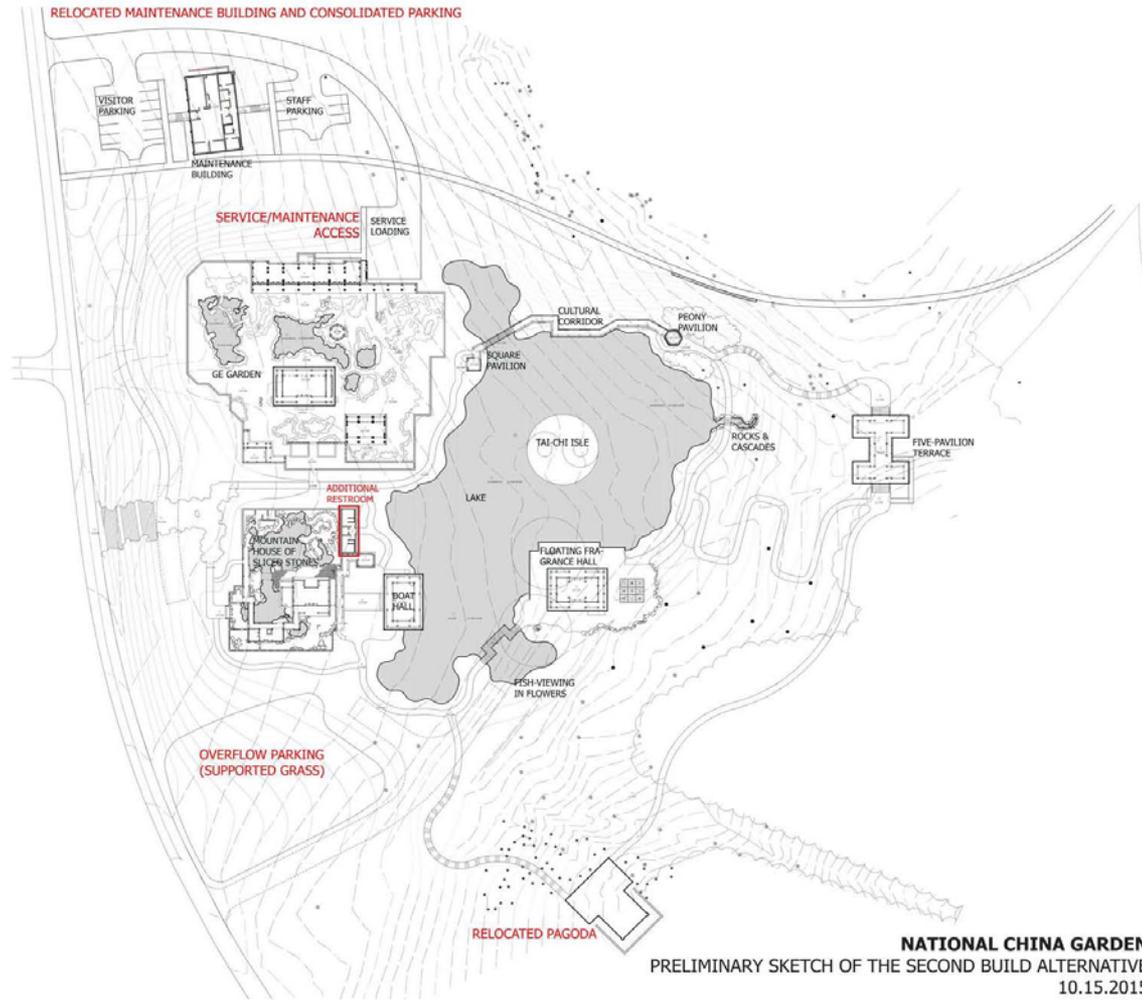
2 SITE SECTION B-B 剖面B-B  
SCALE: 1:200

0 4m 8m 12m  
Scale: 1:200







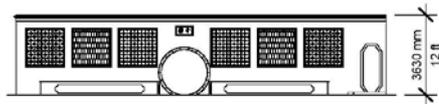


# Build Alternative Overlay with Aerial View

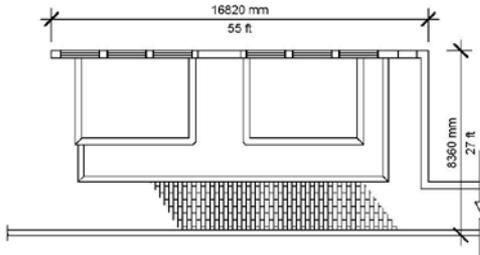


# Build Alternative Overlay with Topography

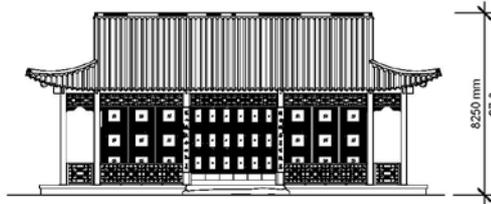




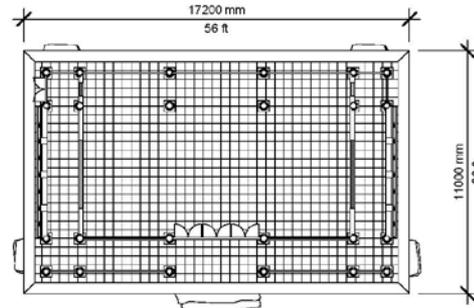
GE GARDEN GATE ELEVATION



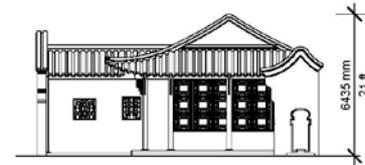
GE GARDEN GATE PLAN



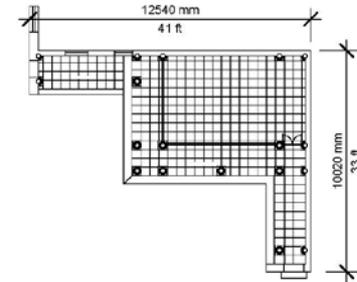
JOYFUL-RAIN PAVILION ELEVATION



JOYFUL-RAIN PAVILION PLAN  
(Enclosed Area: 88 sq meters/947 sq ft)



FINDING-PHRASE PAVILION ELEVATION



FINDING-PHRASE PAVILION PLAN  
(Enclosed Area: 26 sq meters/280 sq ft)



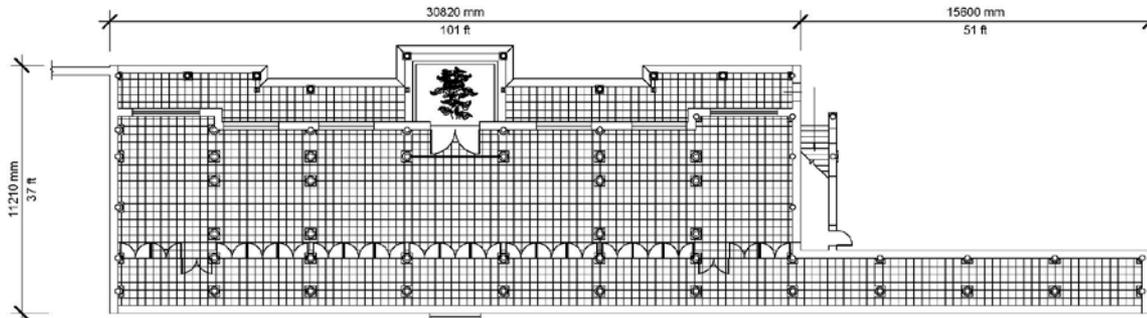
# Plans and Elevations of Buildings / Structures



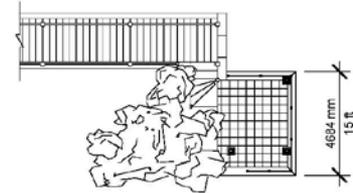
EMBRACING-MOUNTAIN BUILDING ELEVATION



TOUCHING-CLOUD PAVILION ELEVATION



EMBRACING-MOUNTAIN BUILDING PLAN  
(Enclosed Area Including Basement: 540 sq meters/5813 sq ft)

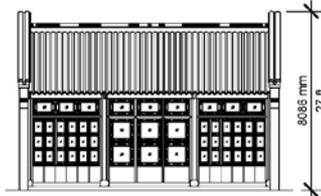


TOUCHING-CLOUD PAVILION PLAN

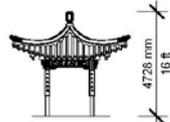




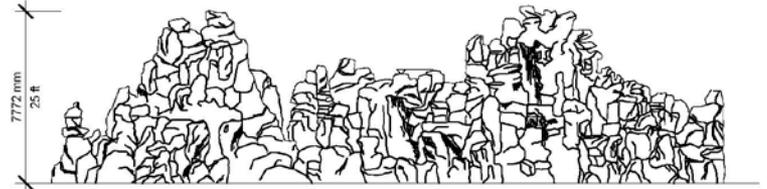
GENTLE-RIPPLE PAVILION  
ELEVATION



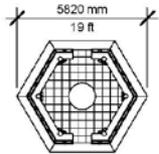
BREEZY-AND-MOONLIT  
HOUSE ELEVATION



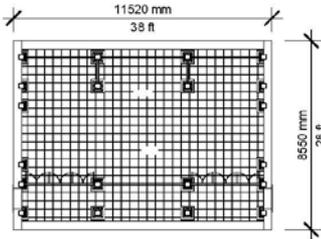
CRANE PAVILION ELEVATION



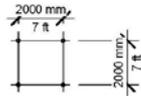
GE GARDEN TYPICAL  
ROCKERIES ELEVATION



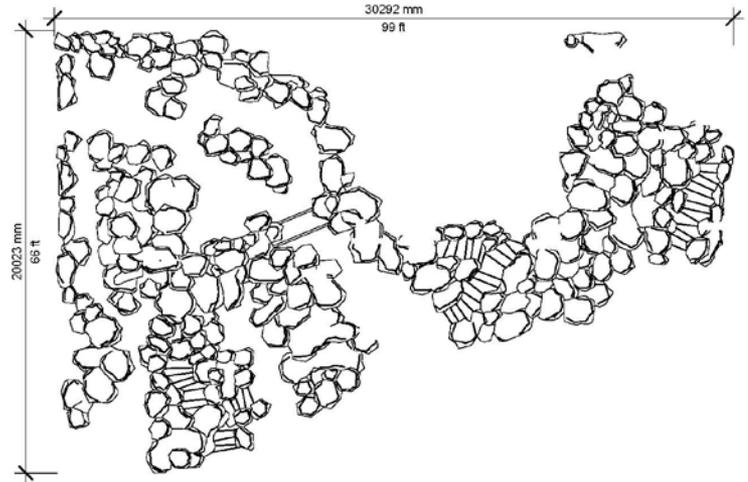
GENTLE-RIPPLE PAVILION  
PLAN



BREEZY-AND-MOONLIT  
HOUSE PLAN  
(Enclosed Area: 62 sq meters/667 sq ft)



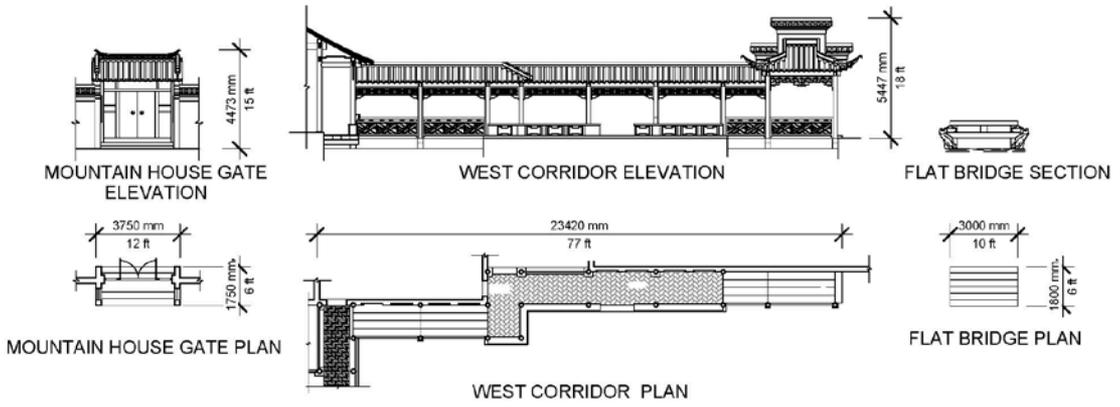
CRANE PAVILION PLAN

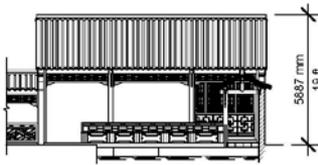


GE GARDEN TYPICAL  
ROCKERIES PLAN

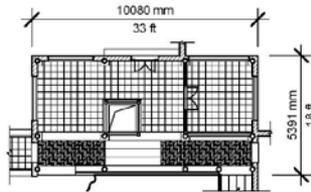


# Plans and Elevations of Buildings / Structures





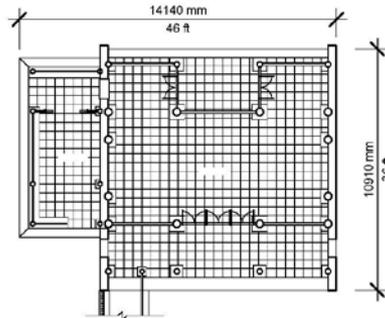
REFLECTION ROOM ELEVATION



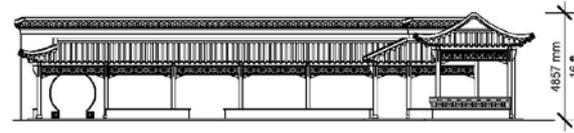
REFLECTION ROOM PLAN  
(Enclosed Area: 10 sq meters/108 sq ft)



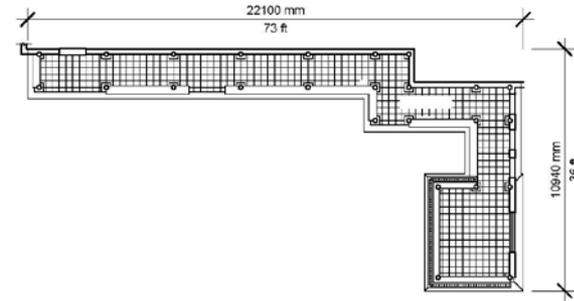
NANMU HALL ELEVATION



NANMU HALL PLAN  
(Enclosed Area: 63 sq meters/676 sq ft)

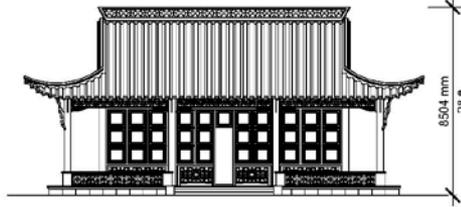


OUTER-EAST CORRIDOR ELEVATION



OUTER-EAST CORRIDOR PLAN

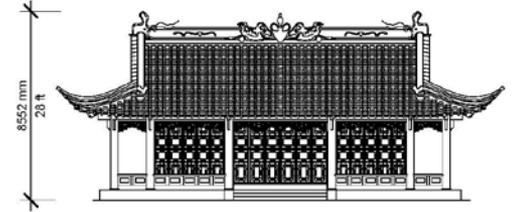




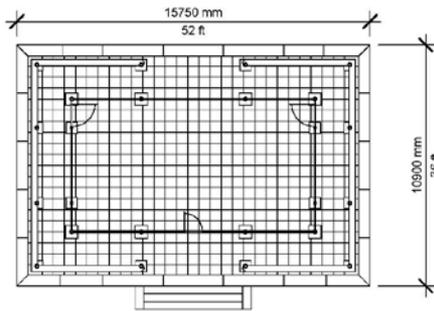
BOAT HALL ELEVATION



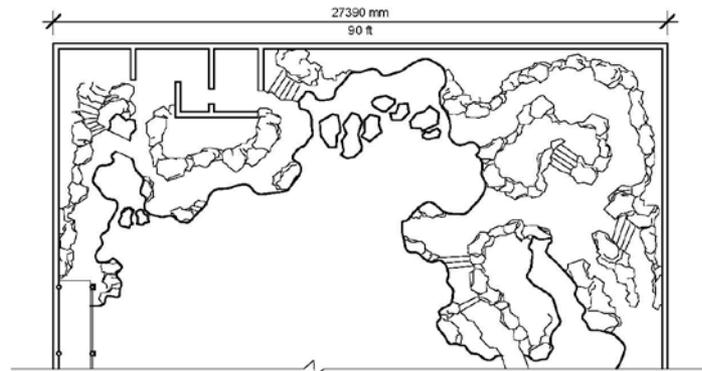
MOUNTAIN HOUSE OF SLICED STONES ROCKERIES ELEVATION



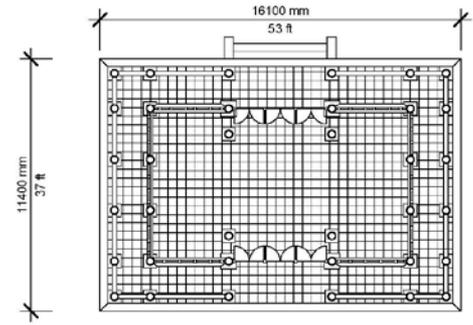
FLOATING-FRAGRANCE HALL ELEVATION



BOAT HALL PLAN  
(Enclosed Area: 65 sq meters/700 sq ft)

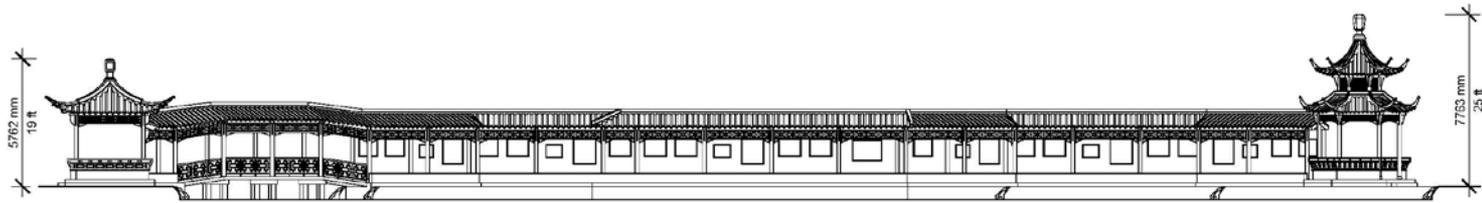


MOUNTAIN HOUSE OF SLICED STONES ROCKERIES PLAN

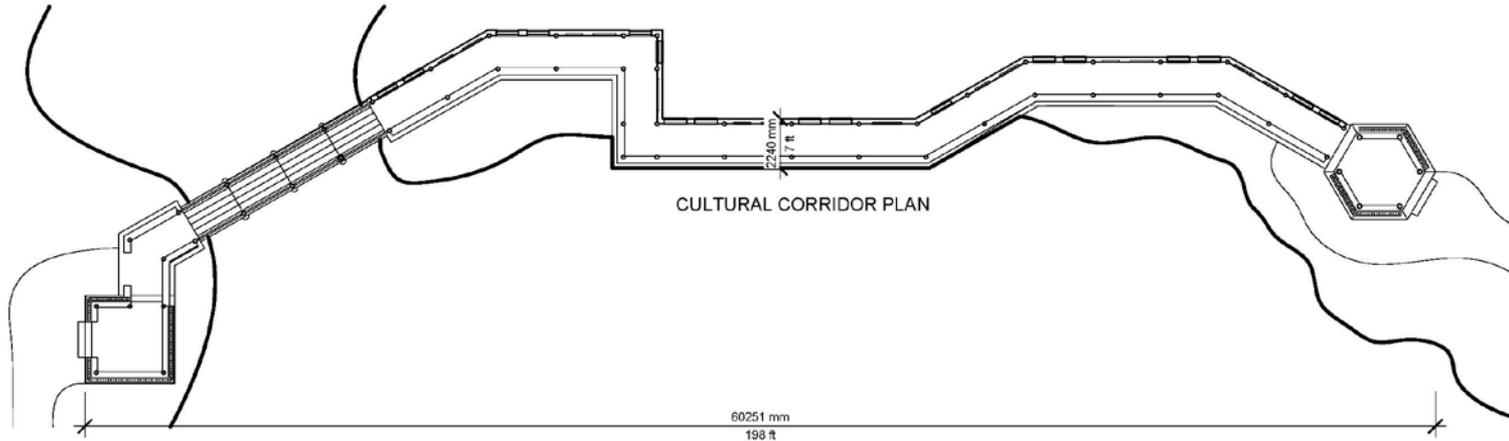


FLOATING-FRAGRANCE HALL PLAN  
(Enclosed Area: 80 sq meters/861 sq ft)





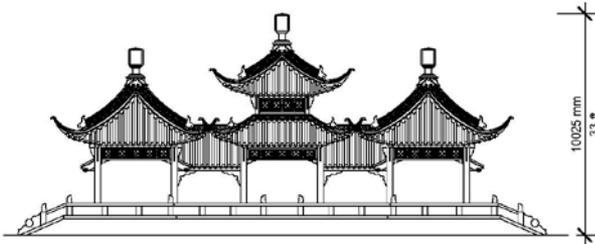
CULTURAL CORRIDOR ELEVATION



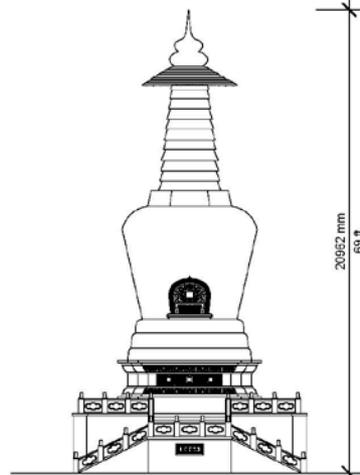
CULTURAL CORRIDOR PLAN



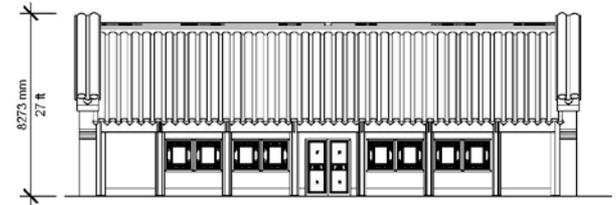
# Plans and Elevations of Buildings / Structures



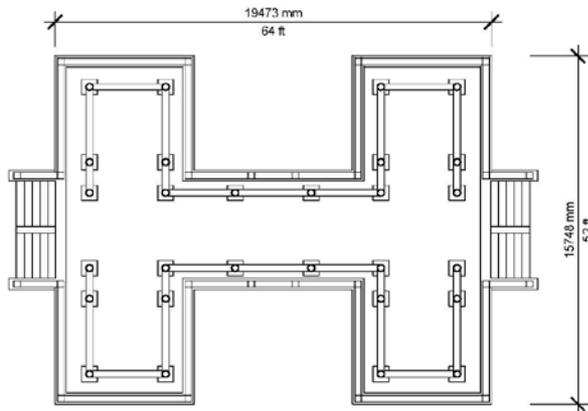
FIVE-PAVILION TERRACE ELEVATION



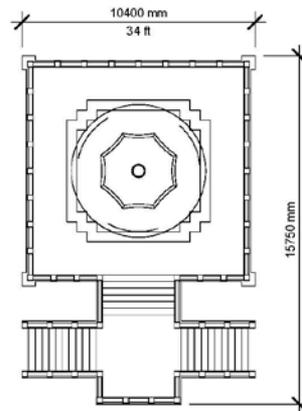
WHITE PAGODA ELEVATION



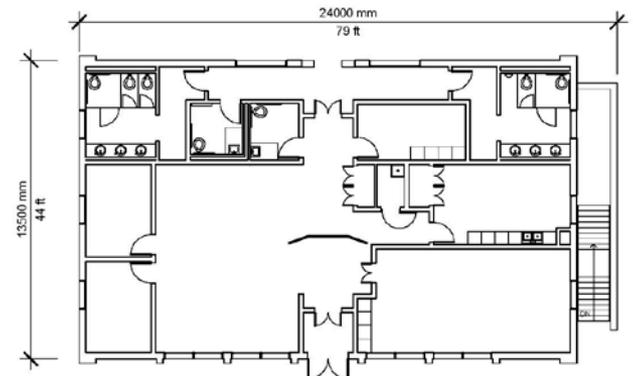
SUPPORT SERVICE BUILDING ELEVATION



FIVE-PAVILION TERRACE PLAN



WHITE PAGODA PLAN

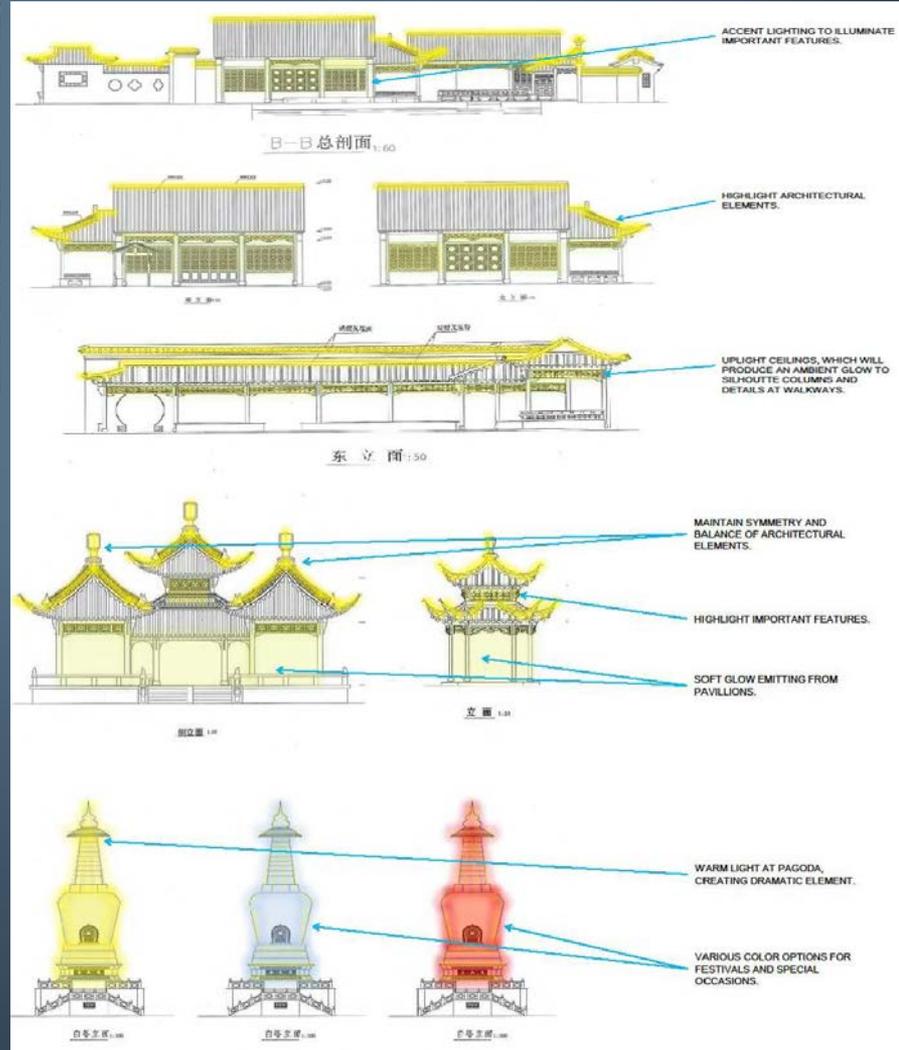
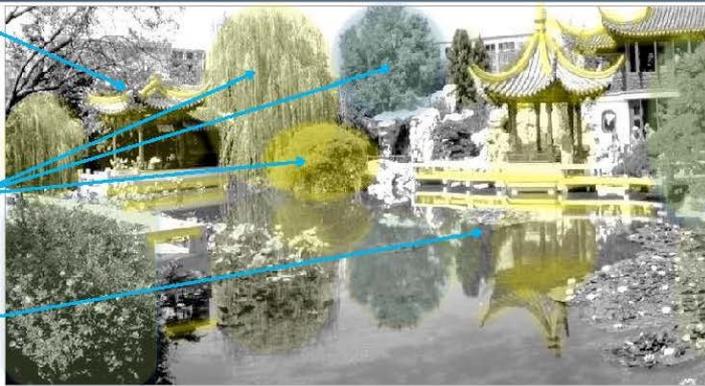


SUPPORT SERVICE BUILDING PLAN  
(Enclosed Area Including Basement: 560 sq meters/6028 sq ft)



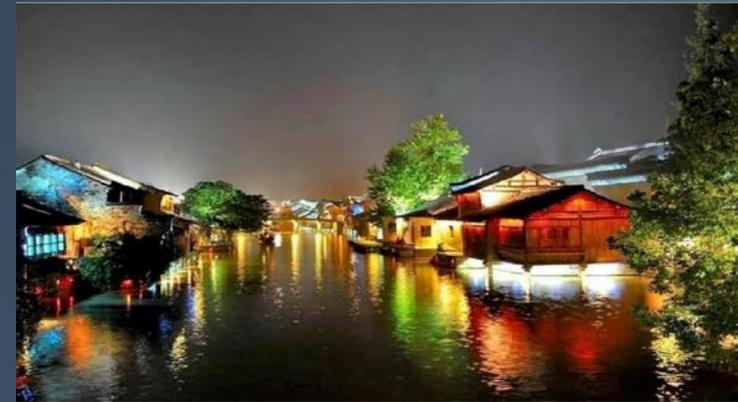
# Landscape and Structure Lighting – Approach

- Highlight architectural elements in the structures.
- Integrate lighting into the landscape, so attention is on desired features rather than the lighting itself.
- Create a hierarchy of elements within the landscape in order of visual significance. This can be done by utilizing varying color temperatures and levels of brightness within the lighting design.
- Take advantage of possible reflections of lighting elements in water to add to the serenity of the garden environment.



Landscape and Structure Lighting - Approach

# Landscape and Structure Lighting – Precedents





Ge Garden: Spring section



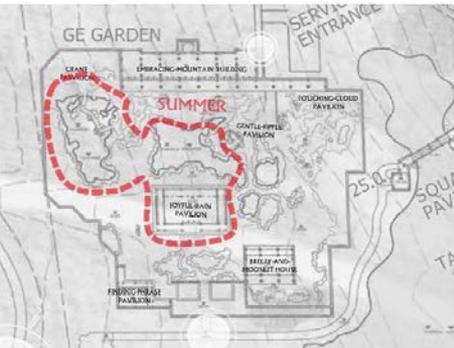
Entrance with "bamboo shoots" rocks



Ge Garden: Fall section



Fall Mount with Touching-Cloud Pavilion on top



Ge Garden: Summer section



Summer Mount with Crane Pavilion on top



Embracing-Mountain Building and Gentle-Ripple Pavilion



Embracing-Mountain Building interior



Joyful-Rain Pavilion interior



Joyful-Rain Pavilion exterior



Ge Garden: Winter section



Winter Mount leaning against the south wall



Mountain House: Reflection Room



A window frames a "painting" for Reflection Room



Garden on lake: Boat Hall



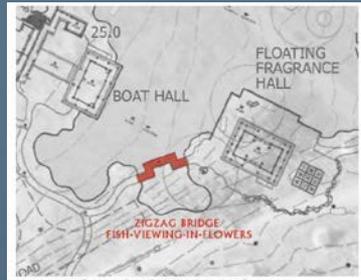
Boat Hall, Yangzhou



Mountain House: Nanmu Hall



View toward Nanmu Hall



Zigzag Bridge and Fish-Viewing-In-Flowers



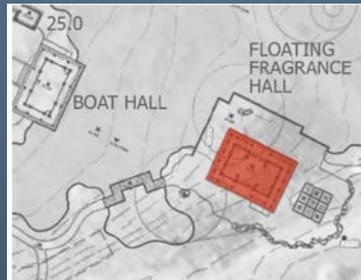
Koi Fish, West Lake, Hangzhou



Mountain House: Corridors



Corridors, bridge, water, rocks, plants and views



Floating-Fragrance Hall



Floating-Fragrance Hall, Suzhou



Cascade and Peony Garden



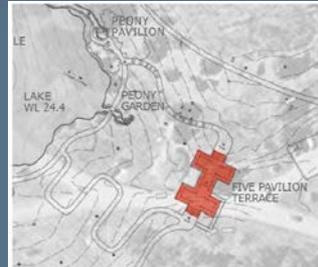
Willow trees on West Lake, Hangzhou



Cultural Corridor



A corridor on Slender West Lake, Yangzhou



Urban Forest: Five-Pavilion Terrace



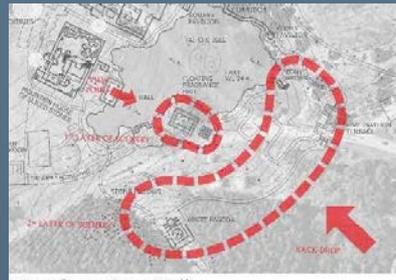
Five-Pavilion Bridge, West Slender Lake, Yangzhou



Urban Forest: White Pagoda



White Pagoda, Slender West Lake, Yangzhou



View from Boat Hall



View from Floating-Fragrance Hall



View from Cultural Corridor



Slender West Lake, Yangzhou