Preservation of the Imperial Villa Garden Site of Ancient Nara Capital, a Special Historic Sites and Special Places of Scenic Beauty

Introduction

Monuments is a generic term referring to the cultural properties listed below:

1. Historical sites and ruins including shell mounds, ancient tombs, and sites of palaces, forts or castles, etc. that possess significant historical or academic value for Japan;
2. Places of scenic beauty including gardens, bridges, gorges, seashores, mountains, etc. that possess significant artistic or aesthetic value for Japan; and,
3. Animals, plants and geological features and minerals that possess significant academic value for Japan.
4. The national government designates monuments for which protection is necessary "Historic Sites," "Places of Scenic Beauty," or "Natural Monuments," according to the classification above. In addition, especially important monuments are further designated as being "Special Historic Sites", "Special Places of Scenic Beauty", and "Special Natural Monuments".

The Act on Protection of Cultural Properties stipulates that any person who intends to change the current state of, or to exert effects on, preservation of a monument or monuments shall first obtain the permission of the Commissioner for Cultural Affairs. The act also specifies that, if such regulation causes the loss exceeding a certain limit of property rights of any person, compensation for the loss shall be required. Generally, however, local governments provide substantial compensation in consideration of the loss by purchasing the land or other properties through state subsidies. In addition, local governments undertake the improvement/maintenance of historic sites through state subsidies in order to ensure broad use of the properties.

Source: Website of the Agency for Affairs (Section in charge: Monuments and Sites Division)

1. Outline of the garden

The Imperial Villa Garden Site of Ancient Nara Capital (hereinafter, "Imperial Villa Garden") is a garden of the Nara period discovered through an excavation implemented in 1975. The garden is located in the southeast of the imperial palace grounds. As it may be considered to be imperial villa-like facilities or a residence of a royal family (place), the garden is called the "Imperial Villa Garden". Since the garden was buried underground for many years, the state of preservation was good enough for us now to know the designs, gardening skills, etc. of that time period. In that sense, the Imperial Villa Garden is an extremely valuable site.

The garden was structured with an S-shaped pond, the centre of the garden, (measuring 2 – 7 meters wide, 55 meters in north-south extension, and 20-30 centimetres deep) the bottom of which is paved with round stones, and buildings were located on the western side. Historically, the garden was constructed around the middle of the Nara period, and survived until the beginning of the Heian period, and repeatedly underwent repairs of the pond and reconstruction of the buildings.

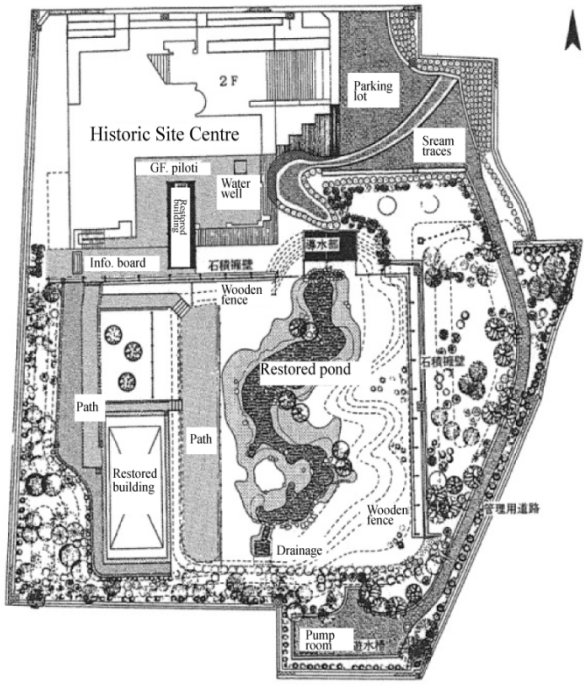
The bottom of the pond is paved with round stones 20 - 30 centimetres in size, and curb stones are lined up along the shore, forming the contour of the pond. The area outside the curb stones is paved with round stones and gravel; meanwhile, at the important positions where the pond bends, large garden stones are placed in order to provide scenic accents to the landscape. At the northern and southern ends of the pond, there were wooden gutters for supplying/draining water and rock arrangement equipment. Considering that water flows from the north to the south of the pond, it may have been a place at which banquets were held, such as *Gokusui no En* (lit. a banquet held beside a meandering stream).

In 1978, the Imperial Villa Garden was designated by the national government as a special historic site, followed in 1985 by an additional designation. In 1992, it was designated by the national government as a special place of scenic beauty.

2. Reconstruction/improvement in the Showa era (First preservation)

The pond when excavation survey was undertaken (viewed from north-east)

The first preservation project was undertaken as “Restoration and Preservation Work for the Imperial Villa Garden Site of Ancient Nara Capital, Special Historic Site” during the period from 1979, the year following the year in which it was designated as a historic site, until 1985. The site is greatly featured with exposed exhibition of the pond as it was excavated, owing to the comparatively good preservation conditions of stone arrangement. Furthermore, exhibited stones such as garden stones, curb stones, round stone pavement, and paving stones from the bottom of the pond are all excavated originals. For protection of the structural remains, the gravel pavement extending outside the pond was filled up with ground, and above that, it was restored for exhibition. For performing exposed exhibition, some garden stones in poor condition were chemically reinforced. Meanwhile, the building located to the west of the pond and the fences surrounding the pond were reconstructed to resemble those of the Middle Nara period during which this garden was constructed.



▲ Plan view of reconstruction project in the beginning of 1985

Reconstruction project undertaken during the period 1979-1985 (the pond and reconstructed building viewed from north-east)

In addition, in order to enable visitors to imagine the scene of a banquet being held beside a meandering stream, there is a constant flow of pond water circulated via pumps. Further, to protect the atmosphere of the garden, trees have been planted to prevent neighbouring buildings from directly entering the line of sight of visitors staying in the reconstructed building in the garden.

In tandem with the restoration/reconstruction of the garden, the "Nara Historic Sites Cultural Centre (hereinafter, "Historic Site Centre"), where there was a hall and exhibition room, was built at the corner of the site, and operated as the central facility for cultural promotion of Nara city. The Centre also provided prompt reports about the results of excavation surveys undertaken by Nara city, and planned exhibitions every year under the title "Nara Capital Exhibition", acting to provide information of the excavation surveys.

3. Restoration/improvement in the Heisei era (1989 to the present; on-going preservation)
Since then, during the period 1998 – 2001, projects implemented include preservation of the portion additionally designated in 1985, repair of the reconstructed building and the fences, and renovation of the circulation pump room. However, the Historic Site Centre was closed and demolished due to the level of decay of the building. Starting with the closure, since 2007, the levelling of the old Centre site as well as preservation/restoration of the area previously restored during the Showa era are underway as "Preservation Project for the Imperial Villa Garden Site of Ancient Nara Capital, a Special Historic Sites/Special Place of Scenic Beauty".

Through levelling the old Centre site, in 2009, the building site on the west side of the pond and water well site have been restored in the form of surface presentation.

As 20 years have passed since the first preservation work of the area restored during the Showa era was completed, overall deterioration can be seen everywhere including the pond, the reconstructed building, fences, garden paths, etc. Therefore, as a preliminary step, inspection of the portions in need of repair was undertaken. Comparing aerial photos of the appearance of the pond when it was excavated and the

present, broken portions were identified. In the case of the garden stones, in particular, a “clinical record” was created per stone to discover the extent to which they have moved out each position, and how badly they have deteriorated or been damaged.

Reconstruction project undertaken during the period 2012-2013 (completely reconstructed building viewed from north-east. The pond in front of the building has not yet been completely reconstructed.)

During the period 2009 – 2011, implemented projects included repair of the reconstructed wooden fences, maintenance/improvement of garden paths, and outdoor-disaster prevention work. Then, from 2012 to 2013, the cypress-bark roof of the reconstructed building was re-thatched, and painting, repair of building fittings, and indoor-disaster prevention work were undertaken. Since 2014, repairs have been made to the pond, as well as repairing garden stones (i.e. “*Keiseki*” stones in Japanese).

The largest problem for the repair of the pond is the “exposed exhibition”. Of all excavated gardens in Japan, the Imperial Villa Garden is the only case in which an entire pond has been exposed for exhibition. Therefore, this will be the first attempt at this kind of repair/improvement work for this garden. Accordingly, it was decided that: (i) repair/restoration methodologies are to be sufficiently discussed among academic experts and professionals; (ii) the pond is basically to be restored to the condition in which it was excavated; and, (iii) the area already reconstructed during the first preservation is to be reviewed, and restored.

Although exposed exhibition may secure the artistically and aesthetically high intrinsic values of the garden as a place of scenic beauty, deterioration of the garden stones is unavoidable. In the case of the stones that have deteriorated significantly and are difficult to retain its original shape on the site, a proposal was made to the effect that such stones should be replaced with alternative ones; but, in doing so, the value as a historic site cannot be maintained, creating another concern.

Setting of this ornamental garden stone has been changed after being reviewed through this repair/restoration work.

After all, in principle, the repair/restoration work is based on the policy to retain and use the original stones. It was decided that those garden stones, in need of reinforcement treatment are to be temporarily removed, chemically reinforced; and then, reinstalled in their initial positions. However, depending on the extent of the future degradation over time of the garden stones, the decision to replace them with alternative stones may become inevitable. To retain this historic site as a place of scenic beauty and historic site while maintaining both values, continuous monitoring of conditions of the pond as well as periodic maintenance are indispensable.

Incidentally, the garden is open to the public even while undergoing restoration in order to publicise the status of repair/restoration of the pond broadly. Although covered by a scaffolding roof constructed for the duration of the restoration, the site accepts visitors who wish to observe the state of the repair/restoration work. In 2015, the site was opened to the public to publicise the repair/restoration project in order to provide an opportunity for visitors to see the actual repair/restoration work.

4. Preservation/repair for garden stones

Garden stones are placed mainly at curved parts or indents of the meandering pond to provide scenic accents to that view. This pond has almost 120 garden stones, many of which are those referred to as gneiss. This type of stone is apt to crack in layers or break into blocks. About 30 years have passed following the reconstruction/restoration work implemented in the Showa era, during which the garden stones have been exposed outdoors. Among them, 55 cracked and damaged stones need repair. Currently, this repair work is underway. Through this work, the garden stones that are effective in enhancing the scenery are temporarily removed, chemically reinforced, the cracked pieces are joined; since then, they are replaced to their precise initial positions.

The work flow is explained below:

Works before removing garden stones

① The entire pond is covered with a scaffolding roof prior to repairs in order to protect the pond from wind and rain.

Furthermore, to prevent rainwater from flowing into the pond site as much as possible, an unlined ditch is dug to surround the pond site. However, to protect other structural remains still buried there, the digging depth is restricted to the surface of the remains.

② The shape, manner of setting, and broken status of garden stones differ from one another. Based on the “clinical record” mentioned earlier, the stones are carefully examined in advance.

Staff members carefully check areas of the stones, carry out simulations to remove them, and consider the best removal method. At that time, the conditions prior to removal should be carefully photographed.

③ In order to precisely replace the removed garden stones to their initial positions, arbitrary points on the surface of stones (e.g. north, south, east, and west, as well as elevation point) are measured and recorded in advance. In some cases, a stone may be broken during removal; therefore, multiple points are measured to

prevent bias in survey points.

An EDM (electro-optical distance measuring) instrument is used for taking measurements. Irrespective of its susceptibility to weather, the EDM instrument is highly accurate in measuring targets located at close range. Weather effects in this case are negligible since this site has been covered with a scaffolding roof.

④ If the garden stones have an embedded footing, the surrounding ground is dug out before removing the stones (see arrow marks in the photo on the right. In so doing, it becomes possible to wind a rope even under the bottom of the stones for safe removal. However, as the areas to be dug are also a part of the structural remains, the digging range is restricted to the very minimum. This work progresses carefully, while making records including taking photographs.

Removal of garden stones

⑤ Workers use a three-pronged fork, chain block and ropes to remove the garden stones.The stones are firmly wound with ropes, and lifted using a chain block composed of a chain and pulley. Using this equipment, even a heavy stone weighing several hundred kilograms can be lifted by the workers.

Two staff members can lift a comparatively light stone,. However, if the stone is quite heavy, and depending on procures for removal, four to five staff members may be needed to pay close attention to prevent slippage and damage to the stone as well as to other structural remains.

⑥ Some garden stones, parts of which were fragmented, are removed after photographing all of the fragments.

Some stones have in excess of 100

⑦ In case there is a crack on the surface of a garden stone, the crack is padded with buffer materials to prevent damage that could occur while removing the stone. To lift up a garden stone, firstly, the stone is wound around with a rope, which is tied with another rope. After lifting the stone slightly, belt-shaped ropes (slings) are fitted under the bottom of the stone to ensure the safety of the work. After that, the stone is carefully pulled out.

The portion of the lifted stone that was in contact with the ground is covered with plastic sheets, etc. until reinstallation after conservation treatment is applied.

Conservation treatment and reaffixing of fragments

⑧ Removed garden stones are washed and dried. After that, they are placed into tanks enclosed with a wooden frame and plastic sheets. Each single stone is immersed in a reinforcing chemical in a tank for two to three hours.

Incidentally, the chemical used at this stage is a stone reinforcing agent referred to as OM25 (OH100). The stones removed from the tanks are dried again.

⑨ Fragments also undergo the conservation treatment, and are sorted according to the original stone. In order to restore the original stone, even small fragments are reaffixed as much as possible, according to the photos taken when it was removed (see ⑥).

The fragments above are affixed piece by piece with a green label and photographed, when the fragments and stone are removed. Referring to such photos, the fragments are reaffixed.

Furthermore, any gaps are filled with “K-Mortar”, a filler to prevent water entry or deformation.

Reinstallation of garden stones

⑩ After completing conservation treatment and fragment reaffixing, the garden stones are reinstalled in the reverse order of removal by using the three-pronged fork, chain block, and ropes.

However, unlike the removal operations, the garden stones do not need to be padded with buffer materials, because they have already been reinforced through the conservation treatment.
⑪ To reinstall the stones at their initial positions, a measurement survey is performed using the EDM instrument in the same way as during the pre-removal step.

In contrast to the procedure during removal, positional adjustment of the stones must be performed while concurrently carrying out the measurement survey. Measurements are performed repeatedly, while repeatedly slightly moving a stone hung in mid-air. A stone can be reinstalled precisely at the initial position when each measured point is set within one centimetre of the data indicated during measurements taken before removal.

If a stone is deformed through the step of reaffixing (see ⑨), it is difficult to reinstall it in the initial position. In such cases, it becomes necessary to determine the initial position, comparing it with the position prior to removal shown in the photos.

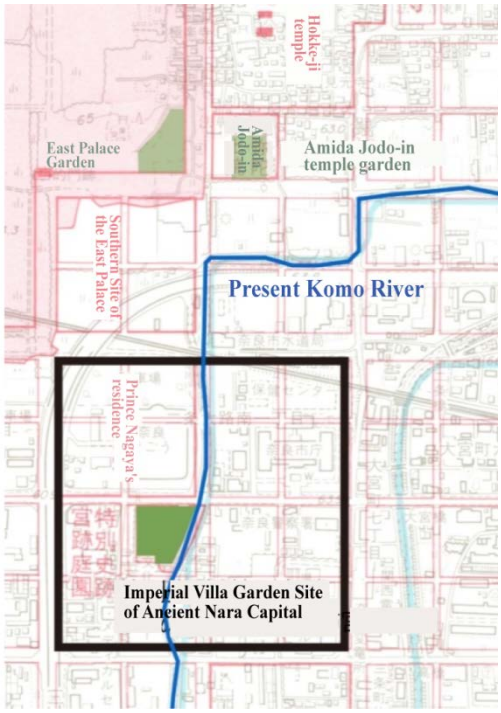
⑫ After reinstallation of the stones has been completed, the gaps surrounding the stones are filled with clay.

In some cases, the clay is filled into the gaps in parallel with the reinstallation operation while the stone is hanging in mid-air.

After everything is finished, the completion status is photographed.

5. Future maintenance improvement projects and subsequent target projects

After completion of the repair and restoration of the garden stones, there are further plans to repair and restore the pond-bottom paving stones, the curb stones, and the round stone pavement, followed by the maintenance of the area peripheral to the pond, as well as planting. Related facilities including guidance facilities, lavatories, and a bicycle parking lot will also be provided by 2020.



Furthermore, in tandem with the maintenance improvement above, preservation utilisation plans will be formulated to establish a framework to enable proper management and active utilisation. All parties concerned wish to publicise this remarkable historical site, let people know its value, and to aim at increasing the number of visitors in cooperation with other neighbouring sites.

There are three garden sites discovered to date that were constructed in the Nara period; (i) this imperial villa; (ii) the East Palace Garden of the Nara Palace Site located to the north of this imperial villa, beyond the Site of the Residence of Prince Nagaya and the Southern Site of the East Palace; and, (iii) the Amida Jodo-in temple garden in the former precincts of Hokke-ji temple. All of the gardens were discovered through excavations implemented at places close to one another along the west bank of the present Komo River. These gardens feature stones and water as important motif components, which may be regarded as the origin of the Japanese garden. Despite the fact that they are of the same era, the gardens are independently unique. Restoration has been completed, and repair improvement work is progressing at the Imperial Villa Garden and the East Palace Garden. However, at Amida Jodo-in temple garden site, there are many areas have not yet been municipalised, and it will take longer to implement restoration work. In future, the authorities/organisations concerned will work on utilisation of these gardens in cooperation with each other.