

Component Part No. 2-3 of the “Sites of Japan’s Meiji Industrial Revolution” Conservation, Restoration, Presentation and Public Utilization Plan for Sekiyoshi Sluice Gate and Yoshino Leat (Area 2 Kagoshima) (Abstract)

Kagoshima City drew up a Conservation, Restoration, Presentation and Public Utilization Plan for the Sekiyoshi Sluice Gate (hereinafter referred to as “Plan”) in FY 2016 and 2017, which became a source of “Conservation Work Programme” pursuant to Recommendation b) in Decision: 39 COM 8B. 14 as adopted by the World Heritage Committee at its 39th session in 2015. The Plan comprises detailed measures for the conservation, restoration, presentation and public utilization of the component part of the “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining” (hereinafter referred to as “Sites of Japan’s Meiji Industrial Revolution”). This document provides an abstract of the Plan.

1. Vision

To maintain the remains of the leat that was modified for conveying water to the waterwheel that powered Shuseikan, and its settings in favorable condition for future generations, while at the same time enhancing the value and attractiveness of these, and visitor environment .

The Sekiyoshi Sluice Gate and Yoshino Leat is a gate of the leat modified to supply water that drove a waterwheel as a source of power for the Shuseikan Project. Among the Sites of Japan’s Meiji Industrial Revolution, it is part of the Shuseikan industrial system, a component part that shows the phase of trial and error experiment in the manufacturing field, and in the shipbuilding field, up to the phase of direct importation of Western technology.

Kagoshima City serving as the leading entity to carry out conservation and restoration of the constituent elements contributing to the Outstanding Universal Value, such as the remains of the sluice gate (Genroku Period: 1691-1704), dam remains representing its use through the Edo Period, the leat still in use today, and the surrounding rural landscape and natural environment. Explanatory displays will be enhanced so visitors can understand not only its function as a sluice gate (water intake) but its geographical and functional relationship to the Shuseikan Project; moreover, a safe facilities for visitors will be installed.

(1) Undertake conservation work and arrangement and improvement of landscape of remains representing the process of modification of sluice gate and its historical changes and developments

The scope of the component part and its buffer zone encompasses remains and facilities belonging to each period from the Edo Period to the Taisho and Showa Eras. The current sluice gate was modified in the Taisho Era. It is used even today for irrigation water and still deeply relevant to the lives and occupations of people in the area. In consideration of these factors, the city, while adopting a basic policy of maintaining the settings of the sluice gate as modified in the Taisho Era, will arrange the concrete installations and other features added in Showa Era and after to the extent that their use for irrigation water is not hindered.

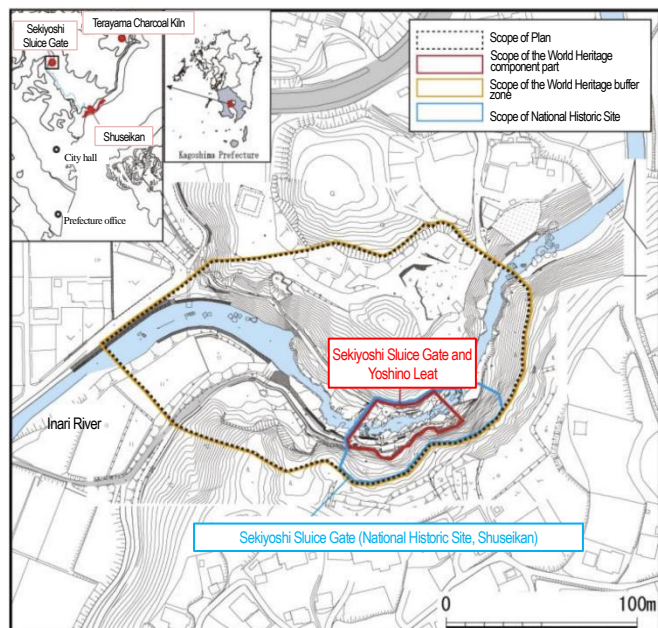


Figure 1. Scope of Plan

(2) Explain sluice gate's role in Shuseikan Project and historical changes and developments comprehensibly

The Sekiyoshi Sluice Gate connects in a direct line to Shuseikan, serving as the water source for the waterwheel that powered the blast furnace, cannon-boring mill, etc. To help visitors readily grasp this role of the sluice gate in the Shuseikan Project, the city will provide explanation of the mechanism by which water was diverted from the river and of the gate's historical changes and developments, from creation through extension, improvement, and modification, while reflecting the results of surveys to be conducted.

The explanations will cover the process of historical changes and developments of the Sekiyoshi Sluice Gate to the present. They will focus on the period when the Shuseikan Project was developing during the last years of Edo Period to early Meiji Era, as well as the period after the Shuseikan Project came to an end, considering that the gate is still used today for irrigation water.

(3) Work to improve observing environment in consideration of remains and landscape, and to maintain historic settings

The city will improve the visiting path, etc., to ensure a safe observation for visitors.

In making these improvements to the visiting path and installing guidance and explanatory boards, due consideration will be made for harmonious scale, design, and layout so as not to adversely impact the remains and landscape. Efforts will also be made to conserve the rural landscape and natural environment of the area around the Inari River, which is estimated to be largely unchanged from the original era.

2. Policy

The policy consisting of following five items has been set to actualize the Vision.

(1) Promoting research and study

Kagoshima City will undertake the following researches and studies.

Historical document surveys will be conducted to shed light on the water utilization systems used by the Shuseikan Project, such as their damming methods. Excavation surveys will study the leat remains buried under the current visiting path from the time of the Shuseikan Project and look for traces of modifications over time. In parallel with these studies, the necessary measurement and ground surveys will be carried out to examine the mechanism and functions of waterwheel power. In addition, visitor surveys will be conducted to confirm the extent of visitor impact on the component part, and monitoring will be carried out to identify ongoing changes to the component part.

(2) Conserving and restoring the Sluice Gate and other remains (preserving, reinforcing, and stabilizing materials, substance, and structure)

To maintain constituent elements of Sekiyoshi Sluice Gate and Yoshino Leat contributing to the Outstanding Universal Value, such as the sluice gate of the leat, etc. the city will engage in regular monitoring, and if damaged areas, or areas where damage could potentially occur, are discovered, will undertake systematic restoration in order of priority as determined with reference to the views of experts, etc., to stabilize and strengthen those areas. Restoration of exposed structures will be undertaken with due sensitivity to maintaining the structures and materials used at the time. Underground archaeological remains under the visiting path that have so far been detected will be given a protective earth layer of an appropriate thickness and then maintained in a stable condition underground.

(3) Illustrating and explaining industrial systems in Shuseikan Project

Kagoshima City will provide easy-to-understand explanation of (1) the Sekiyoshi Sluice Gate's water intake system, (2) the role of the gate within the industrial systems of the Shuseikan Project, and (3) their relationship to nearby historic sites, by means of assigning guides and placing explanatory boards at the Sekiyoshi Sluice Gate, for example. A guidance facility will be constructed on the grounds of Shuseikan by the owner,¹ who will provide

¹The Shuseikan guidance facility is scheduled to be built by the owner, Shimadzu Ltd..

exhibits and explanations of the Sekyoshi Sluice Gate within the facility. The findings of upcoming investigative studies to be undertaken by the city will be actively reflected in the exhibits and descriptions.

(4) Arranging and improving landscape from a scenic perspective

The city, working with the owner of the relevant site, will properly manage the densely growing trees and other greenery on the slopes next to the visiting path to avoid overgrowth, and also carry out arrangement of the sandbags, concrete installations, etc., added in later years. In the buffer zone, measures will be taken to conserve the sluice gate, the forest environment along the Inari River, which serves as the water source, and the pastoral scenery along its downstream watershed.

In case monitoring confirms places with an actual or potential adverse impact on the landscape, the owners of the relevant sites, with support from the city and other relevant administrative institutions, will conduct arrangement and other improvements to prevent or mitigate the impact, taking into account the views of experts, etc.

(5) Implementing projects

The city will set out a clear implementation schedule that delineates short, medium and long-term phases and the various projects to be addressed within those phases to ensure the steady and phased implementation of the Plan.

The owners and managers of the each of the component parts of Area 2 Kagoshima and the related buffer zones will be responsible for managing and operating the each project regarded as necessary for the three phases pursuant to the Plan. In addition to the owners and managers, the Government of Japan and Kagoshima Prefectural Government, local neighborhood associations, NPOs, and other relevant institutions and groups will coordinate at the Shuseikan Conservation Council and the Partnership Council for Modern Industrial Heritage Sites in Kagoshima to ensure steady progress on each of the conservation, restoration, presentation and public utilization projects.

3. Methods

(1) Research and study

The city will undertake following surveys.

(a) Historical document surveys

Studies will attempt to clarify the water utilization systems, such as damming methods, used at the time, by means of comparisons with other water intake dams in Japan of the same period. A comprehensive survey will be made especially of the civil engineering techniques of the Satsuma Clan, which is believed to have accumulated a wealth of experience and knowledge from flood control work at the Kiso River (in the Nobi Plain) and rivers in – its own domain.

(b) Excavation surveys

To clarify the functions of the intake at the time of the Shuseikan Project and the history of modifications in the Taisho Era, excavation surveys will study the old leat remains buried directly under the current visiting path.

(c) Measurement and ground surveys

Measurement and ground surveys will be conducted as necessary based on the results of the historical document and excavation surveys. The mechanism and functions of waterwheel power will also be investigated.

(d) Visitor surveys

The city will conduct a survey on visitor numbers, as well as observations of visitor behavior and the length of their visits, to ascertain their impact on the state of component part as well as the degree of visitor satisfaction.

(e) Monitoring

Every year the city will inspect the component part and the buffer zone and ascertain their current state. Individual data for the component part will comprise detailed records of the parts and materials of each

constituent element, while individual data for the buffer zone will comprise records of the landscape from multiple points selected within and outside the component part. Monitoring charts aggregating the above information will also be used.

(2) Conservation and restoration

(a) Target

The city will conserve the sluice gate (Genroku Period, 1688-1704) and other constituent elements of the component part contributing to the Outstanding Universal Value. The location of each of these elements is noted in Figure 2.

(b) Basic concept and methods

- Remains of the sluice gate (Genroku Period) and Monument to Water god Suiten

At present there are no elements seen to be in need of urgent repair, but the situation will be monitored and repairs made if damage or deterioration is found.

(3) Presentation and public utilization in light of industrial systems in Shuseikan Project

The Sekiyoshi Sluice Gate component part encompasses many elements, concentrated around the Inari River, including the intake and sluice gate that were operated during the time of the Shuseikan Project, remains that were modified in the Taisho Era, and other elements showing the changes that the sluice gate underwent over time. Viewing these many elements as pertaining to one cohesive zone, the city will utilize the site not only as a tourism resource but as a resource that contributes to school education, education of the general public, and community enrichment. The zoning is shown in Figure 4.

(a) Tour routes

Tour routes will be provided from the bus stop approximately 300 meters west of the component part, from the parking lot of the Sekiyoshi Sluice Gate, and from the bus stop approximately 700 meters southwest of the component part, each of them running along the waterway to the site (Figure 5).

(b) Planner markers for presentation of underground archaeological remains and improvement of the environment

The underground archaeological remains of the former leat which lies directly under the path near the sluice gate will be indicated on the paved surface of the path. These indications will reflect the results of planned excavation surveys.

(c) Arranging and improving landscape and planting vegetation

The densely growing trees on the slopes along the visiting path will be properly trimmed and pruned as directed by experts. In so doing, since the bamboo on the hillside is believed to have historical significance, being planted by the Satsuma Clan for stabilizing the embankment at least from the Tempo Era (1830-1844), care will be taken to protect and cultivate it. The sandbags, sluice, concrete walls, and other installations added in later years will undergo arrangement while maintaining the irrigation water function.

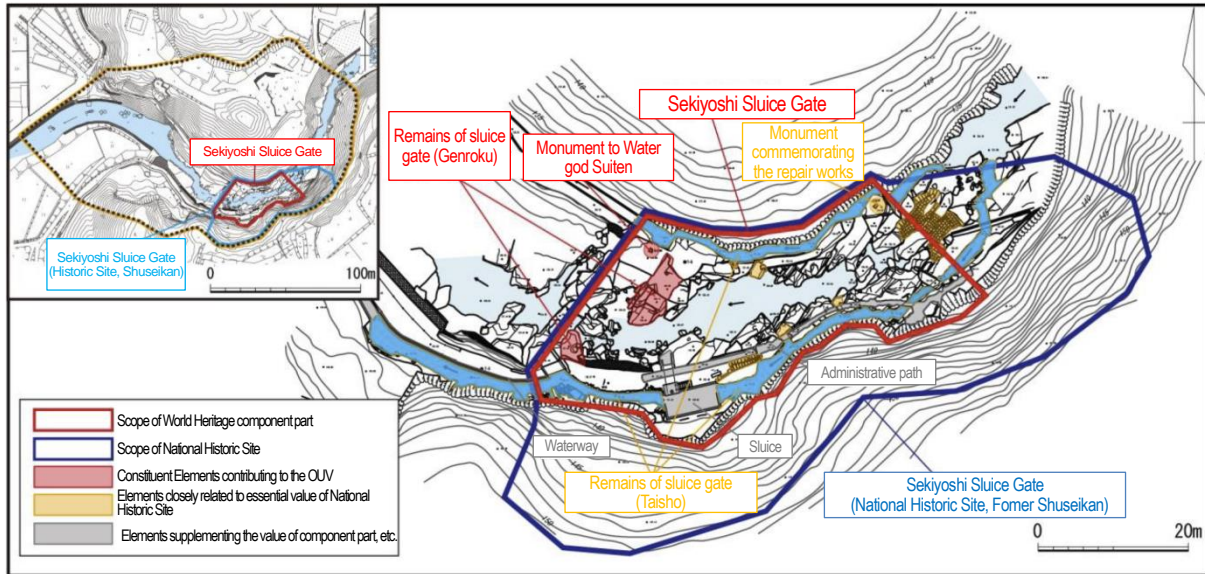


Figure 2. Constituent elements, subject to conservation and restoration, etc.

(d) Guidance and information boards

A World Heritage Plaque as one of the “Sites of Japan’s Meiji Industrial Revolution” will be installed in an open space near the visiting path indicating the Outstanding Universal Value of the World Heritage property as a whole and making clear that the Sekiyoshi Sluice Gate is one of 23 component parts. The results of surveys to be conducted hereafter on damming methods, the state of underground archaeological remains under the visiting path, etc., will be reflected in the information boards.

(e) Administrative facilities

New guardrails will be installed along the visiting path to ensure a safe viewing environment for visitors, while avoiding impact on the underground archaeological remains and maintaining harmony with the landscape.

Considering the expected visitor numbers, parking lots and toilets will be installed in a place closer to the component part than the present location.

(4) Arrangement and improvement of landscape in the buffer zone

The city and the relevant administrative institutions will preserve conserve the excellent local environment and landscape through regulations pursuant to the City Planning Act, Landscape Act, and other laws. Moreover, the city, working with the respective site owners, will preserve the bamboo planted as a traditional means of stabilizing the embankment, and manage the densely growing trees on the slopes to a more appropriate level of greenery on the hillside along the visiting path.

4. Project Implementation

(1) Order of priorities

The schedule for implementation of those projects which should be undertaken on a priority basis in the each zone will be as in Table 1. Projects which will be given particular priority in the short term phase are as follows:

- Excavation surveys of old leat remains and stone walls under visiting path
- Restoration of sluice gate (Genroku Period) remains and Monument to Water god Suiten
- Establishment of a World Heritage Plaque
- Installation of guardrails

(2) Review of the implementation schedule

The schedule will be reviewed after the medium-term phase (15 years) based on the state of project progress. Where new measures need to be taken, a review will be considered prior to that time.

Category	Project	Short term					Medium term	Long term
		2017	2018	2019	2020	2021	2022-31	2032 onward
(1) Research and study	a. Excavation surveys of old leaf remains and stone walls under visiting path							
(2) Conservation and restoration of buildings and historical and archaeological remains and objects	b. Restoration of sluice gate remains (Genroku Period) and Monument to Water god Suiten							
(3) Presentation and public utilization in light of industrial system	c. Management of trees growing on hillside							
	d. Establishment of a new carpark and toilets based on visitor trends							
	e. Establishment of World Heritage Plaque							
	f. Planar marker of old waterway remains under visiting path							
	g. Installation of guardrails							
	h. Easy-to-understand explanations of damming methods, etc.							
	i. Arrangement for concrete installations							
	j. Research of waterwheel power mechanism and functions							

Table 1. Project schedule

(3) Other

Kagoshima City has carried out conservation and restoration work, etc. for the Shuseikan by securing necessary funds* making use of various subsidy programs available in FY2016 and FY2017, the first two years following inscription of the property on the World Heritage List. To ensure the smooth implementation of the project, it plans to continue such efforts to secure necessary funds in partnership with relevant institutions.

* Approximately 3 million yen was spent in FY2016 (including the amount spent for historical document survey) and 3 million yen has been budgeted for FY2017 (including the amount earmarked for excavation survey of underground archaeological remains directly under the visiting path and of stone walls), both including costs incurred or earmarked for the presentation and public utilization of the component part, but excluding the cost for day-to-day maintenance.



Figure 3 Conceptual drawing after project completion of Sekiyoshi Sluice Gate and Yoshino Leat

5. Basic plans

The Sekiyoshi Sluice Gate basic plan and conceptual drawing after projects completion of the site are shown in Figures 4 and 5.

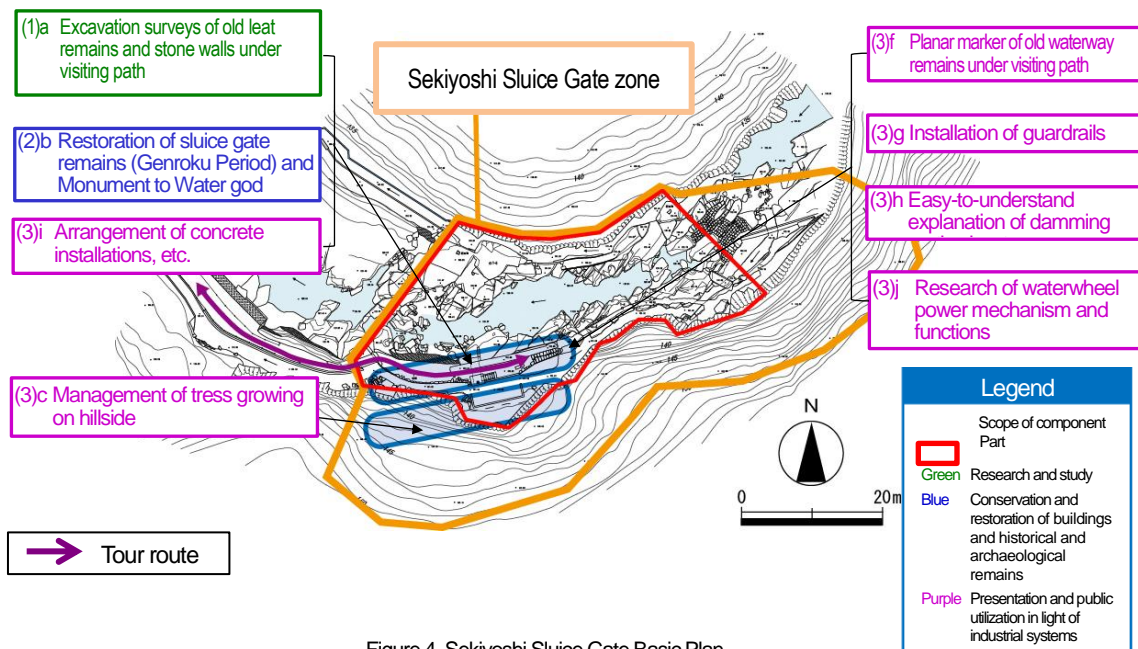


Figure 4. Sekiyoshi Sluice Gate Basic Plan

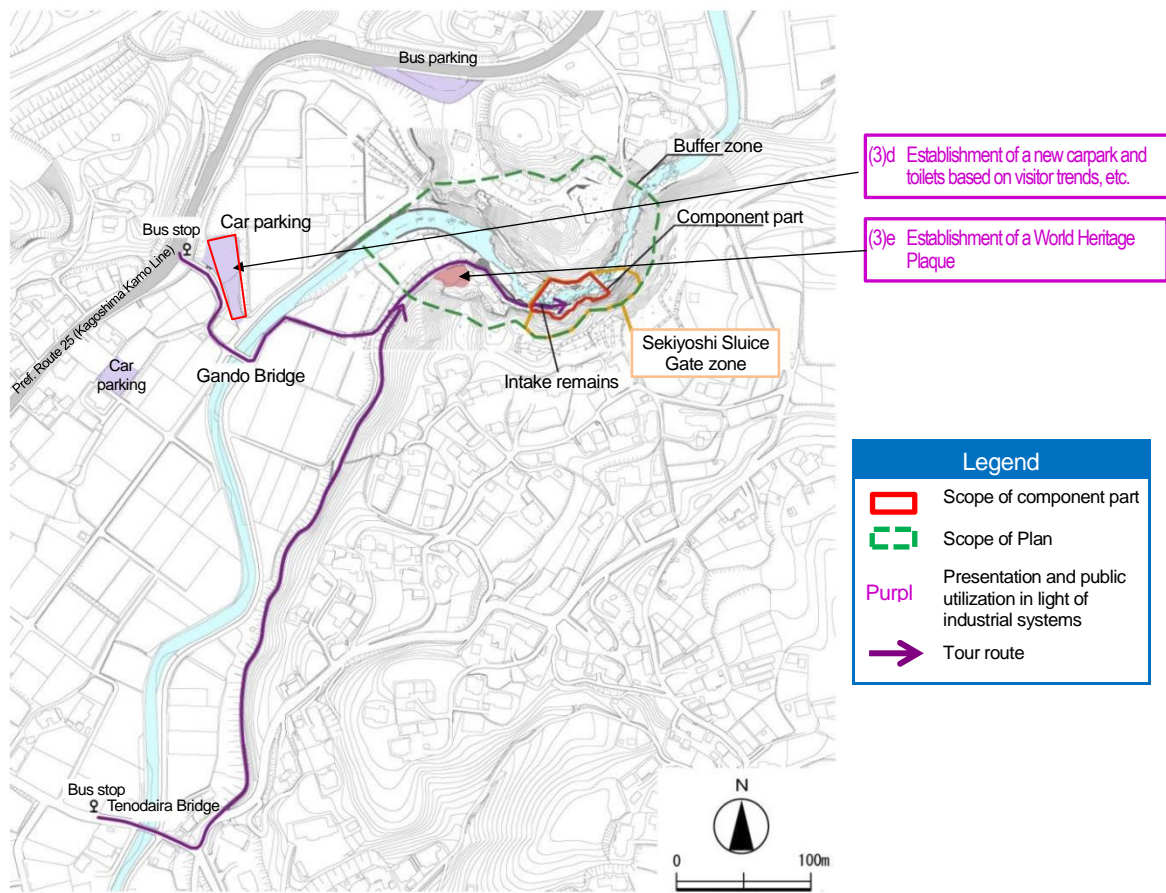


Figure 5. Sekiyoshi Sluice Gate vicinity Basic Plan