

## STATE OF CONSERVATION REPORT

### PROPOSED WORKS AT THE IMPERIAL STEEL WORKS, JAPAN, AND ONGA RIVER PUMPING STATION— COMPONENT PARTS OF THE *SITES OF JAPAN'S MEIJI INDUSTRIAL REVOLUTION—IRON AND STEEL, SHIPBUILDING AND COAL MINING.*

#### INTRODUCTION

This State of Conservation report is to inform the World Heritage Committee of conservation works proposed for the Imperial Steel Works and the Onga River Pumping Station, component parts of the *Sites of Japan's Meiji Industrial Revolution*. These works are not considered to have an adverse effect on the Outstanding Universal Value of the Property, but are forwarded to the Committee in compliance with Paragraph 172 of the *Operational Guidelines*, as notification of works that may affect the conservation of OUV, albeit positively.

#### 1. SUMMARY OF PROPOSALS

The proposals affect four buildings in two component parts of the World Heritage Property *Sites of Japan's Meiji Industrial Revolution: Coal Mining, Iron and Steel and Shipbuilding*. All works are related to the conservation and presentation of the properties, which are not currently accessible to regular public visitation.

The two component parts are the Imperial Steel Works and the Onga River Pumping Station. The four buildings are the First Head Office Building, the Former Forge Shop, and the Repair Workshop (all within the Imperial Steel Works), and the Onga River Pumping Station.

The proposed works involve, in summary:

**First Head Office Building:** Completion of interior restoration following extensive earthquake stabilisation completed in 2014, for the purpose of opening the building as an historic building and visitor interpretation facility;

**Former Forge Shop:** External building conservation, and commencement of earthquake stabilisation work;

**Repair Workshop:** External building conservation, and commencement of earthquake stabilisation work;

**Onga River Pumping Station:** External building conservation and commencement of earthquake stabilisation work.

## 2. ADMINISTRATIVE STATUS OF THE PROJECT

The proposals are in the process of being developed, with full documentation to be completed by the third quarter of 2017. Some documentation, such as that for seismic reinforcement works for some buildings, will extend into 2018.

It is anticipated that planning and works approval will be sought in September 2017.

The projected start date for the first stage of works is December 2017, with staged works extending into 2020.

Overall management and conservation of the buildings at the Imperial Steel Works are conducted based on the “Strategic Framework” established by the Cabinet Secretariat through collaboration with interested parties. The owner, Nippon Steel and Sumitomo Metals Corporation, is responsible for the proposals, developed in conjunction with Kitakyushu City and Nakama City.

Approvals will be required from the Yawata District Management and Conservation Council, the city administrations of Kitakyushu and Nakama Cities, and the Cabinet Secretariat of Japan.

All of these bodies have been, and will continue to be, fully informed of the development of the proposals, and their representatives, together with the representatives of the Nippon Steel and Sumitomo Metals Corporation (the Owners) are members of the planning group developing the proposals.

An outline of the proposed schedule is at Table 1.

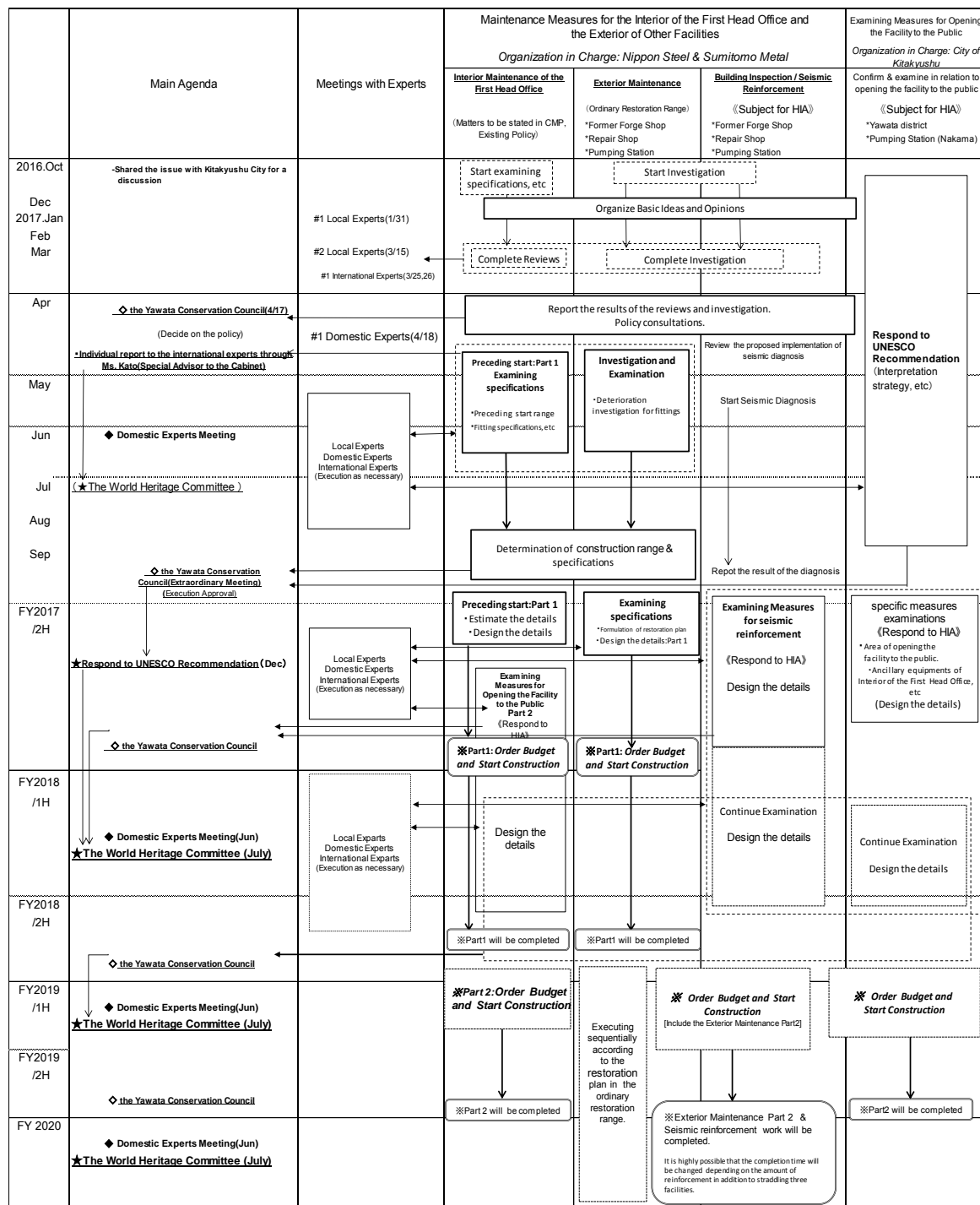
Table 1

Agenda for World Heritage Related Affairs

1. Basic Policy

- Obtain approval for each course of action at the Yawata Conservation Council scheduled to be held in April, 2017
- Obtain execution approval for each measure at the Yawata Conservation Council, provisionally scheduled to be held in September, 2017
- ※Propose and obtain approval for executing the seismic reinforcement at the Yawata Conservation Council in February, 2018
- Decide on a plan after consulting domestic and international experts through Special Advisor to the Cabinet.
- Regarding the "Measures for Opening to the Public", City of Kitakyushu will be in charge of examining and executing them

2. Proposed Schedule



Enlarged version of Table 1 is shown in the next page below:

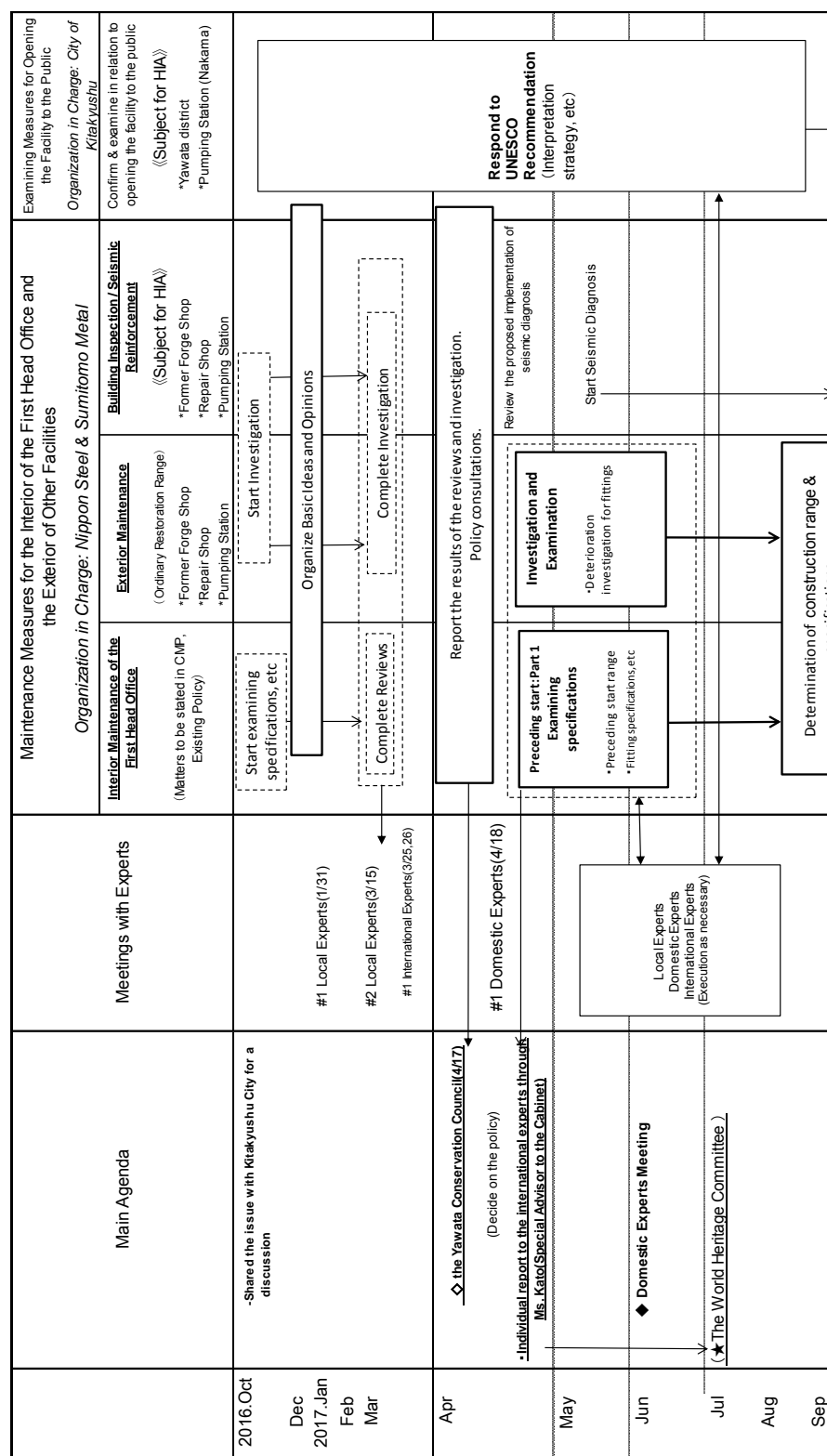
Table 1

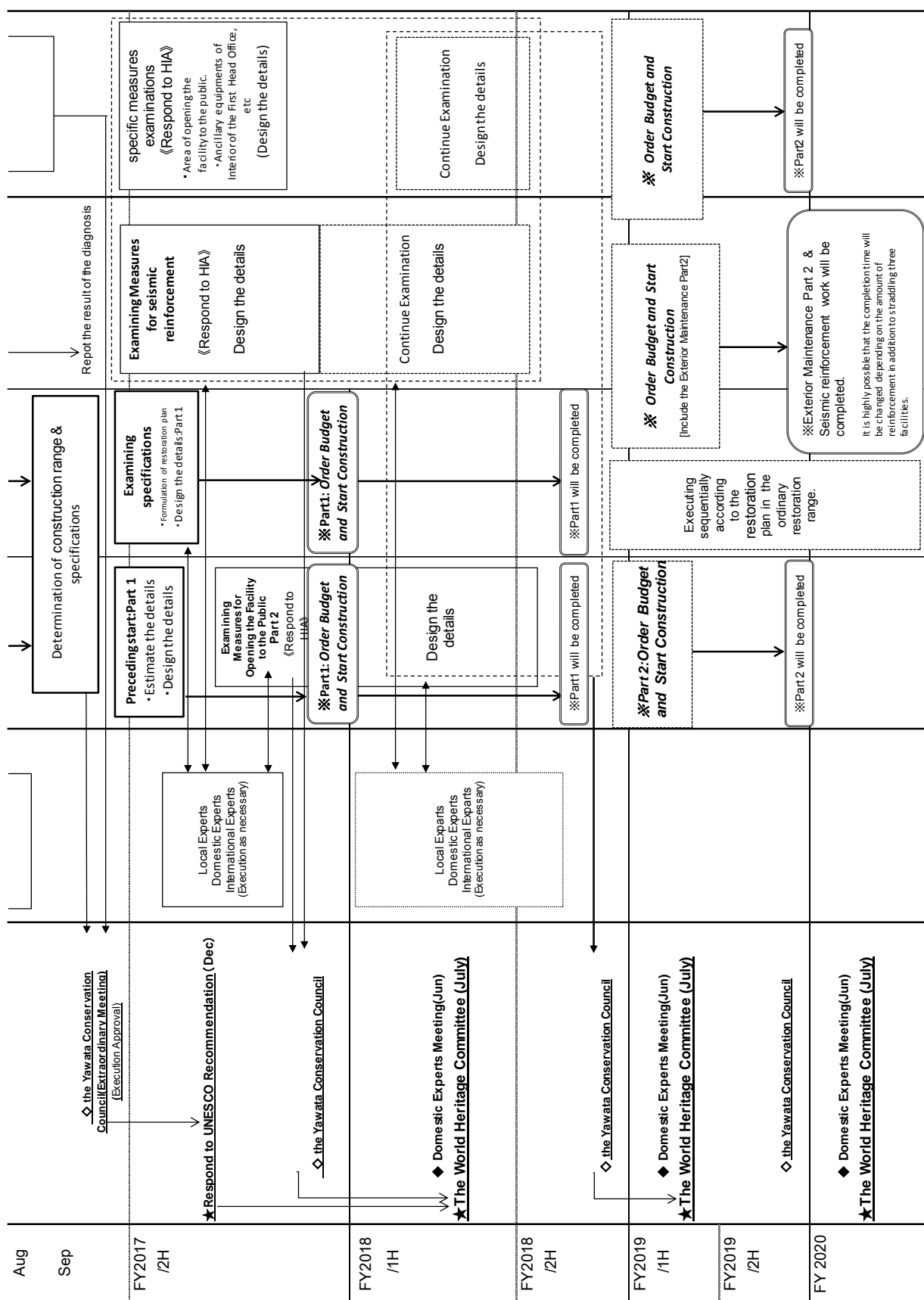
## Agenda for World Heritage Related Affairs

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### 2. Proposed Schedule





### 3. SUPPORTING MATERIAL

#### 3.1 Description of the project

The proposals affect four buildings in two component parts of the World Heritage Property *Sites of Japan's Meiji Industrial Revolution: Coal Mining, Iron and Steel and Shipbuilding*: the First Head Office Building, the Former Forge Shop, and the Repair Workshop (all within the Imperial Steel Works), and the Onga River Pumping Station.

The proposed works are as follows:

**First Head Office Building:** Completion of interior restoration following extensive earthquake stabilisation completed in 2014, for the purpose of opening the building as a historic building and visitor interpretation facility. The details regarding the way in which the building would be opened to the public, and the design of associated roads and land around the site, are under consideration.

**Former Forge Shop:** External building conservation and commencement of earthquake stabilisation work, to stabilise and repair building fabric in poor condition, and allow for ongoing operational use. The improvement of the presentation of the building to the public (as seen from the First Head Office Building) is also being considered.

**Repair Workshop:** External building conservation, and commencement of earthquake stabilisation work, to stabilise and repair building fabric in poor condition, and allow for ongoing operational use. The improvement of the presentation of the building to the public (as seen from the First Head Office Building) is also being considered

**Onga River Pumping Station:** external building conservation, and commencement of earthquake stabilisation work, to stabilise and repair building fabric in poor condition and allow for ongoing operational use, and improve the presentation of the building to the public (as seen from the existing viewing platform on the perimeter of the site).

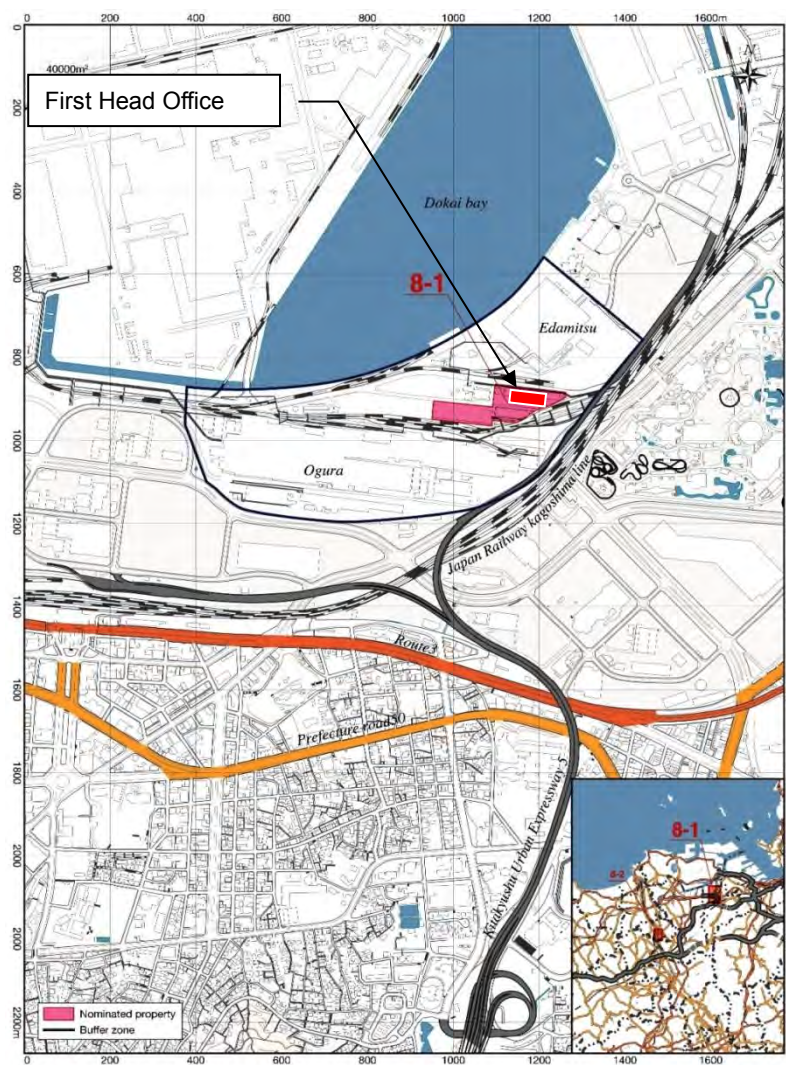


### 3.1.1. First Head Office Building

The First Head Office Building underwent extensive seismic strengthening works in 2014, to stabilise and strengthen the brick masonry walls so as to be able to withstand earthquake movement. This work is a national building code requirement.

Seismic strengthening required the addition of steel plates bolted to the internal masonry walls. This required the removal of internal finishes that symbolized the integration of western and Japanese building technologies and reflected the craftsmanship that was involved. This evidence was carefully recorded before the reinforcement work, and samples retained for future reference. The restoration of these interiors is being considered with input from the relevant experts and organisations, to restore the building back to its traditional finishes, and to be able to use as an historic property and visitor facility for the component. There is as yet no formal proposal for these works, which are foreshadowed in the Conservation Management Plan. The local government and the owner are negotiating the nature of future uses and the extent of visitor access, while maintaining ongoing operation.

The proposed works will include the conservation and adaptation of window frames to improve weather sealing and allow for stronger glass to withstand typhoon winds.

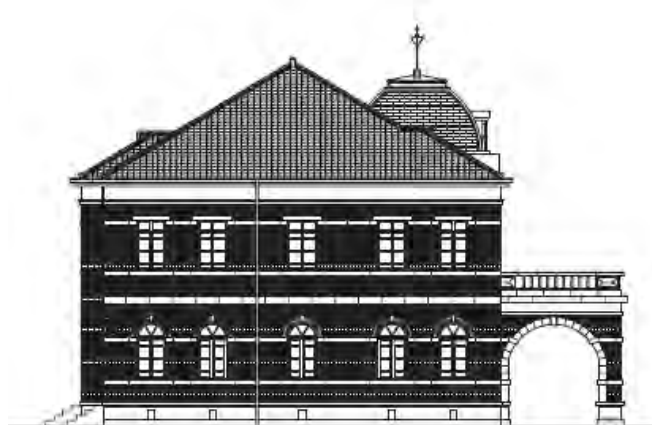
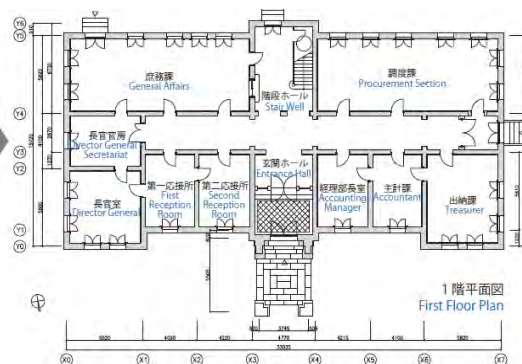
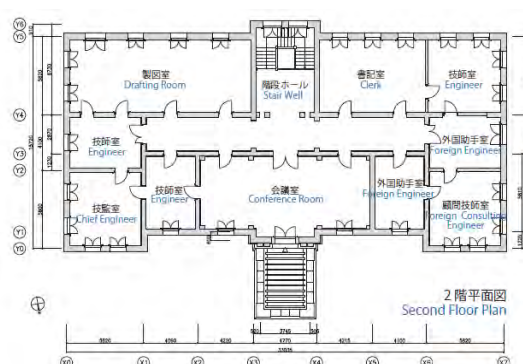


## First Head Office Building

(East side Exterior, Plan and East Elevation)



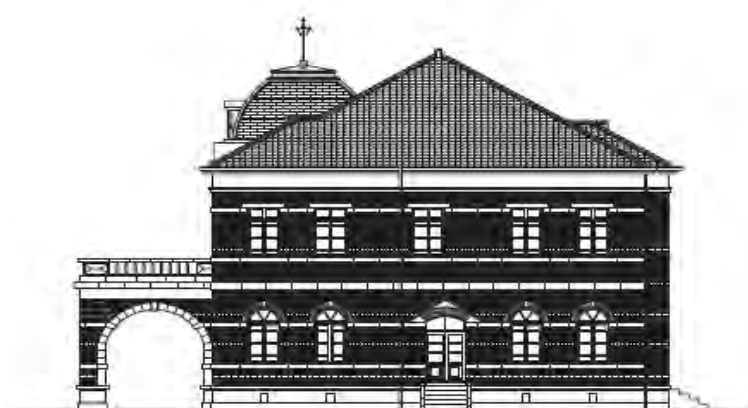
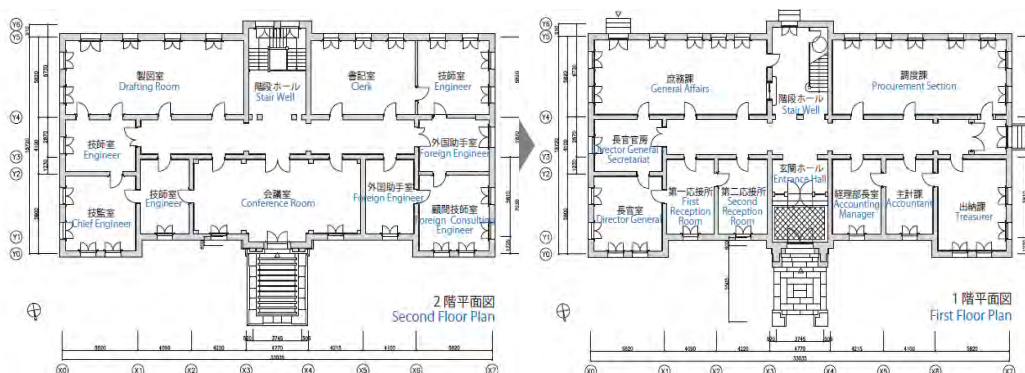
Camera  
Position



東側立面図  
East Elevation

## First Head Office Building

(West side Exterior, Plan and West Elevation)



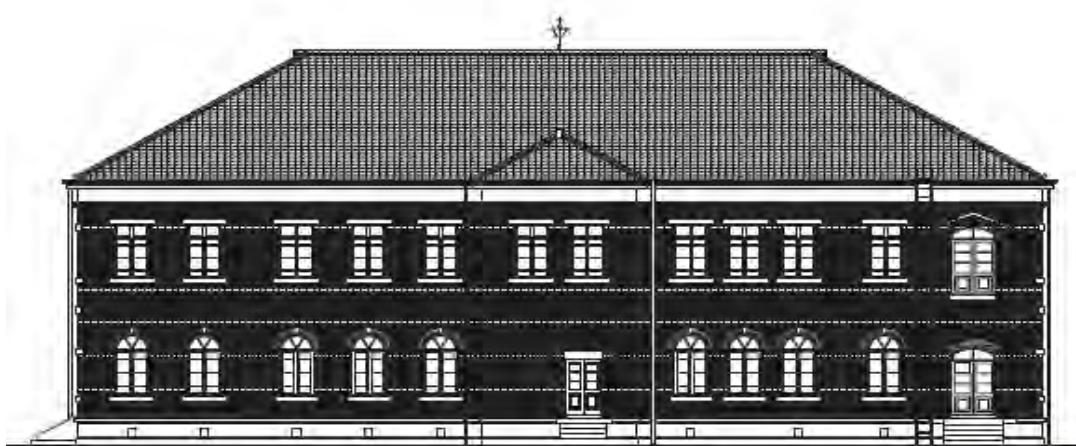
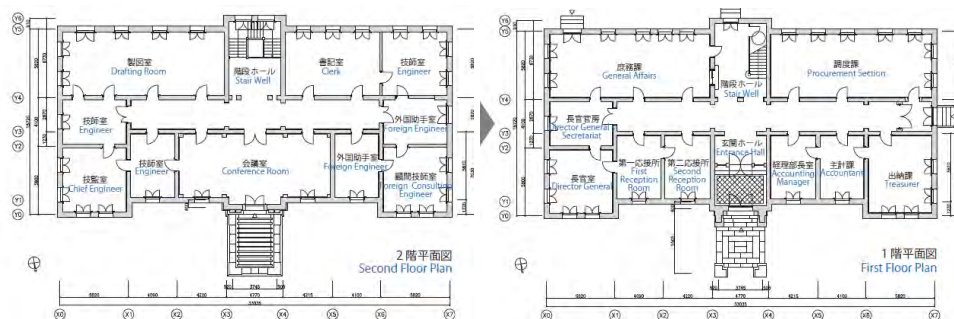
西側立面図  
West Elevation

## First Head Office Building

(South side Exterior, Plan and South Elevation)



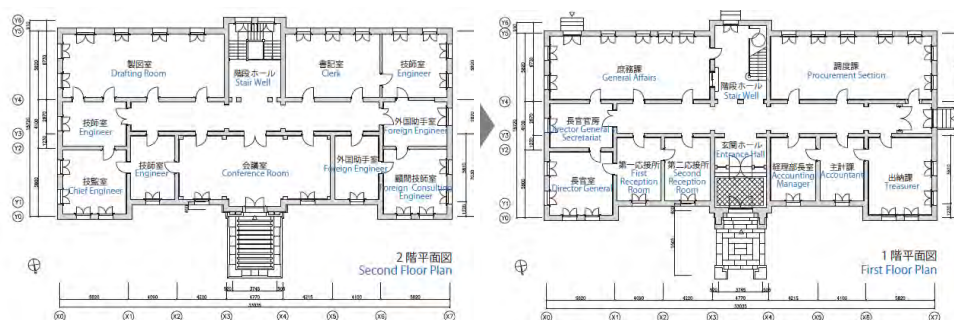
Camera  
Position



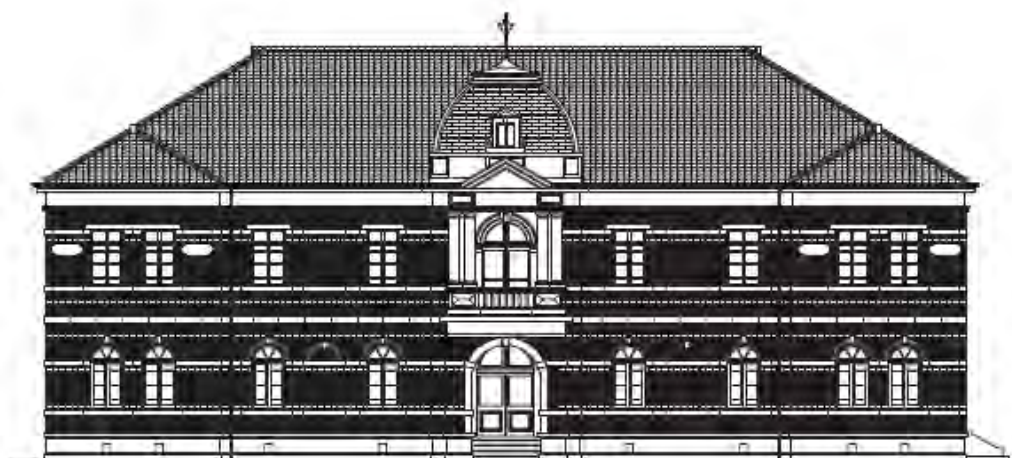
南側立面図  
South Elevation

## First Head Office Building

(North side Exterior, Plan and North Elevation)



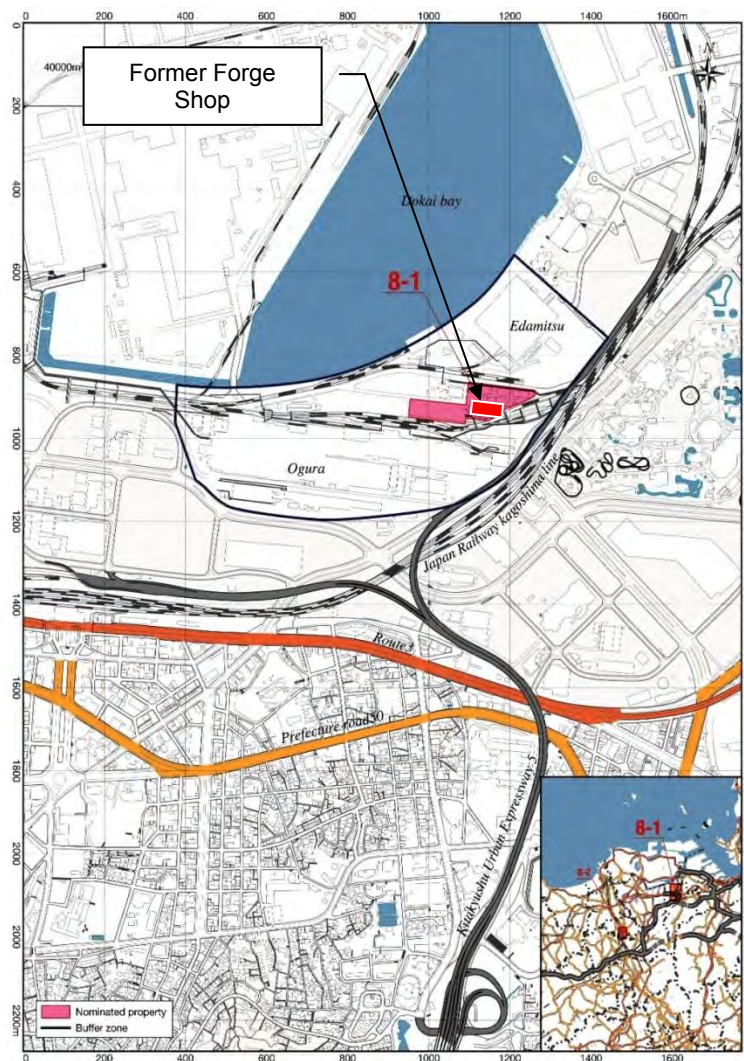
Camera  
Position



北側立面図  
North Elevation

### 3.1.2. Former Forge Shop

The Former Forge Shop building houses the Yawata steelworks archives and a storage facility for materials originating in the ensemble of buildings that make up the property. Parts of the building are in need of stabilisation and restoration of the materials to maintain the original design and appearance. The building, being steel-framed with masonry infill, also needs to be assessed for its seismic performance, and upgraded if found to be under standard (which appears to be likely).



The building, clad with slag-bricks made in the steelworks, has been used for a variety of functions, and maintained in a 'robust' way. This included cement rendering the walls on one side to counter water penetration problems (caused largely by faulty rainwater furniture), and the cladding of one end in metal sheets. The slag brick wall that formed the eastern wall collapsed in an earthquake in 2005, and was temporarily replaced with metal-clad wall. The

potential for reinstating the wall as slag bricks will be part of the seismic strengthening discussions.

Investigations on seismic reinforcement are under way, and we plan to separately report on the plan of countermeasure construction in 2018. Although it is preferable to construct most of external appearance concurrently with seismic reinforcement work, there is a possibility that some windows and gutters may require emergency action to remediate major condition problems. As a result of the current survey, we are planning to carry out selected conservation work prior to seismic reinforcement work where such work is separated from projected seismic reinforcement work and does not require integration with it. The restoration work will be carried out in accordance with the "General Principles for Maintenance (CMP Table 5-2) (Guidelines)".

Gutters and downpipes will be restored based on existing designs. Conservation works to walls will be based on respect for the original design, and to solve historic problems of steel frame decay and water penetration.

The large windows, the wooden frames of which have also deteriorated, will be restored, with the replacement where necessary of frames with matching detail. Stronger glass will be fitted to withstand typhoon winds, in frames restored and adapted to integrate with any seismic reinforcement requirements. The scope of this work will be determined in September 2017.

The steel frame will have rust removed and then be treated with a rust inhibitor. Any steel frame elements found to be structurally unsound will be reinforced or replaced in a manner sensitive to their heritage significance, and any additional seismic retrofitting will be designed to maximise the conservation and understanding of original fabric.

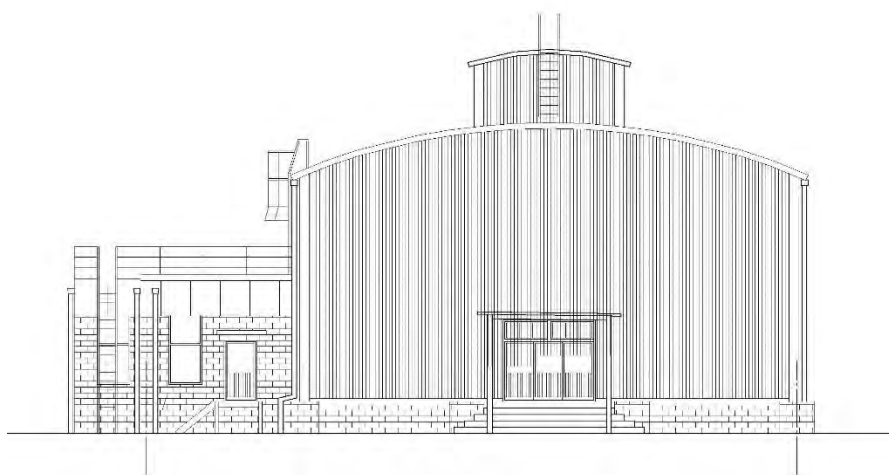
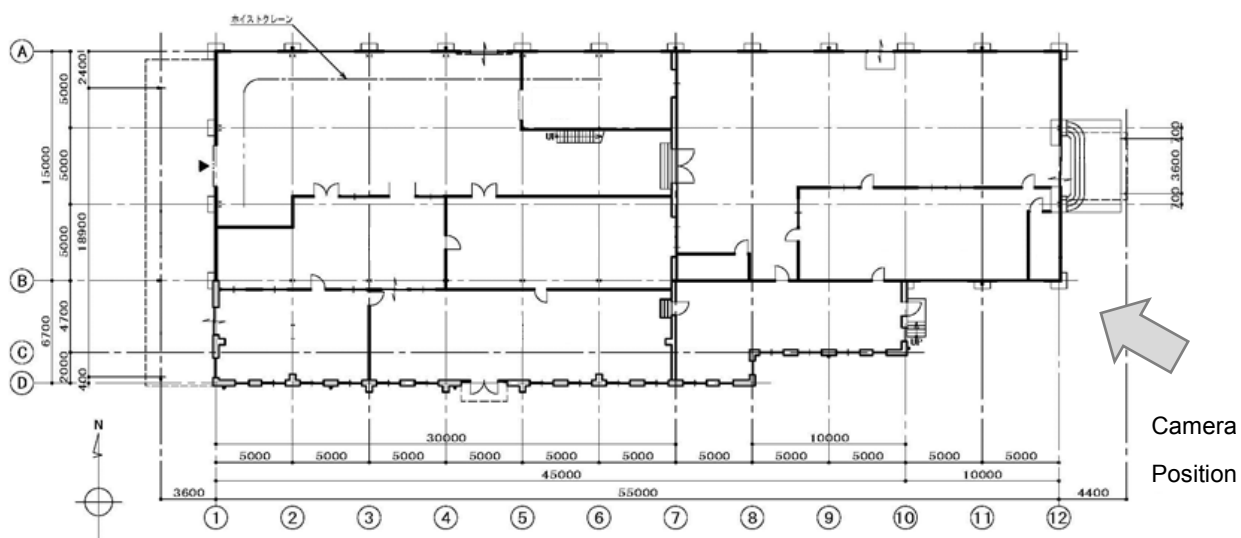
Redundant external steam piping and service shelving will be retained if it has been associated with major stages in the building's operations. Minor and recent redundant external services will be removed. Poles and aerial trays in the road spaces outside both the Former Forge Shop and the Repair Workshop will be retained to maintain the industrial landscape associated with the operations of these elements of the steelworks.

The metal sheet roof has a life expectancy of 20-30 years and will be maintained as it is.

The details of the proposed works are provided at Appendix 002.

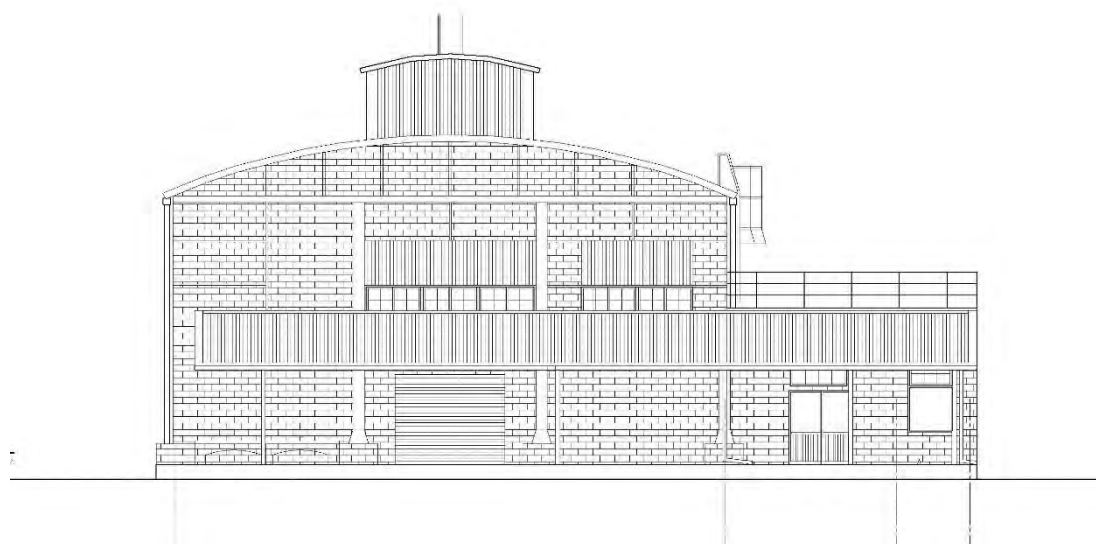
## Former Forge Shop

(East side Exterior, Plan and East Elevation)



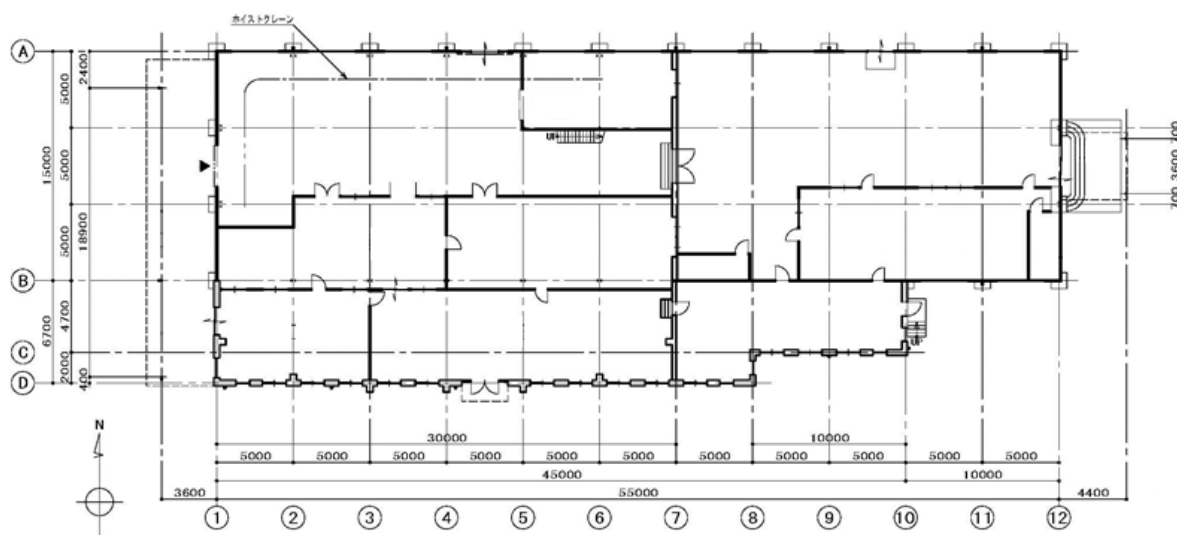
## Former Forge Shop

(West side Exterior, Plan and West Elevation)

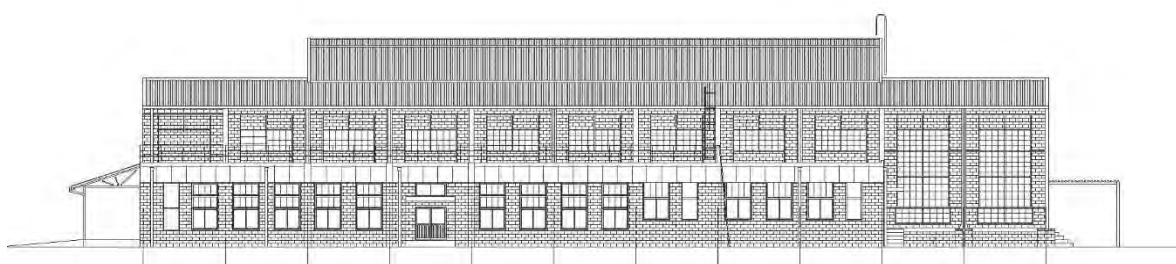


## Former Forge Shop

(South side Exterior, Plan and South Elevation)



Camera  
Position



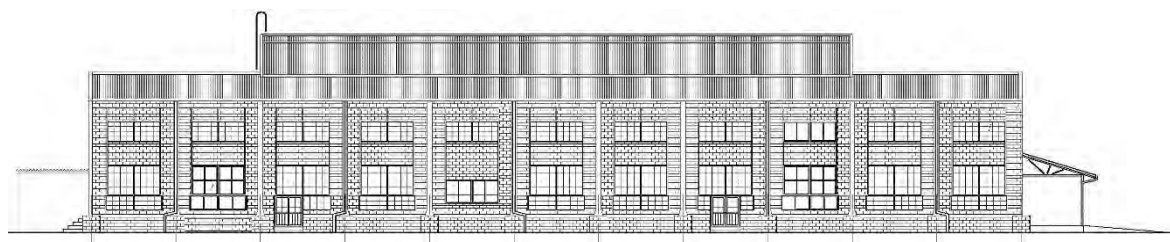
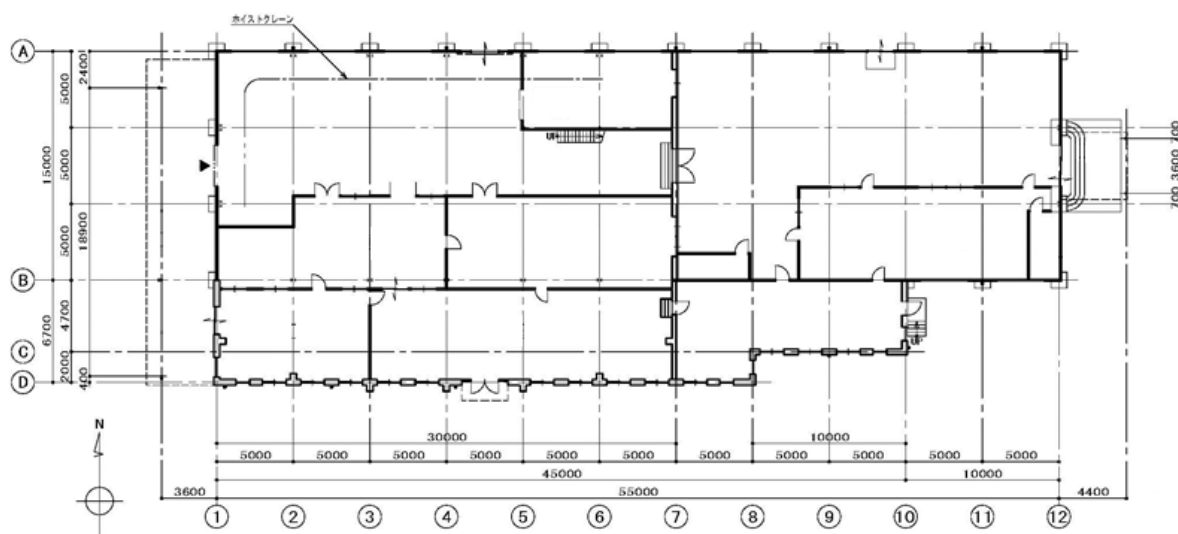
## Former Forge Shop

(North side Exterior, Plan and North Elevation)



Camera

Position



### 3.1.3. Repair Workshop

The Repair Workshop is a steel-framed structure with extensive glass window walls, and sections of masonry and galvanised iron cladding. The windows are currently protected within temporary acrylic panels attached outside and inside the original window frames, and some have been covered with metal sheeting. Some sections of the building are in need of varying degrees of stabilisation and restoration to maintain original fabric, and restore or replace degraded fabric to maintain the significant form and design of the building. The building is used for a range of light repair and fabrication functions related to the ongoing operations of the steelworks, continuing its traditional use.



As with the former forge shop, we are currently conducting investigations on seismic reinforcement, and we plan to separately report on the plan of countermeasure construction in 2018. Although it is preferable to restore most of external appearance concurrently with

seismic reinforcement work, there is a possibility that some windows and gutters will require immediate conservation work. As a result of the current survey, we are planning to carry out selected conservation work prior to seismic reinforcement work where such work is separated from projected seismic reinforcement work and does not require integration with it. The restoration work will be carried out in accordance with the "General Principles for Maintenance (CMP Table 5-2) (Guidelines)".

As with the Former Forge Shop, sections of the Repair Workshop have infill cladding within the steel frames that include an extensive area of glass windows, iron sheet and slag-brick cladding. As at the Former Forge Shop, the windows frames will be accurately restored or replaced depending on the detailed condition inspection. The scope of the restoration work will be determined after study in September 2017. The use of stronger glass to withstand typhoon damage may require slight modification of frame detailing, as in other buildings. The integration of conservation work with seismic reinforcement will also be determined at this time.

Slag brick sections will be stabilised and repaired, and if necessary treated with the breathable waterproof finish if its reversibility is verified and it has no visual impact.

The steel frame will be subject to the same process of study, rust removal, treatment and reinforcement or replacement as outlined for the Former Forge Shop. All gutters and downpipes will be repaired or replaced to establish a reliable roof-water management system.

Redundant external service piping and trays will be retained where it is related to important phases in the operation of the workshop. Operational services will be maintained and managed to avoid adverse impact on, or confusion or masking of, significant fabric.

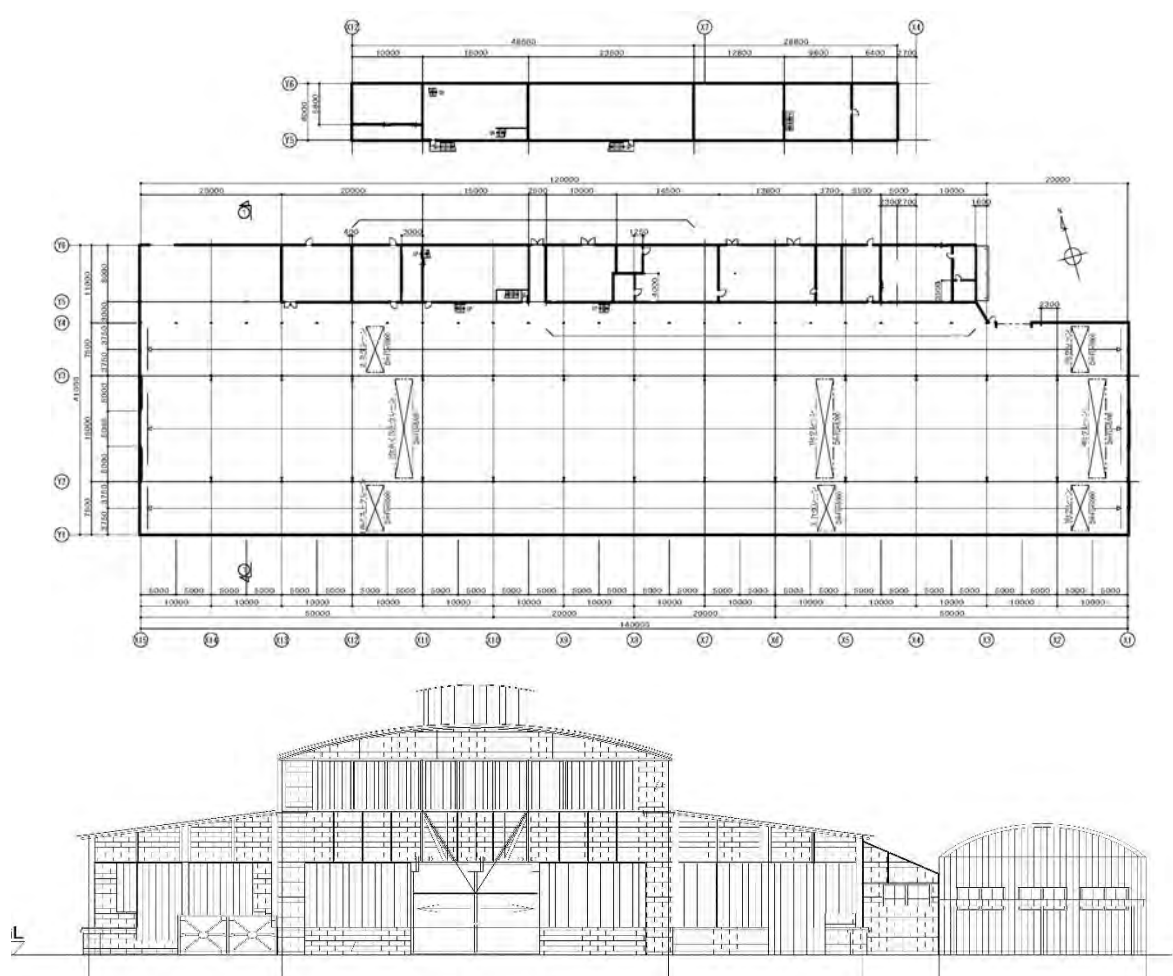
Brick cladding encasing structural steel posts at both ends of the building show cracking, and this will be investigated to ensure ongoing stability, and to repair steel and brick elements as necessary.

The metal sheet roof was recently replaced and has an expected life of 20-30 years. so will be maintained as it is.

The details of the proposed works are provided at Appendix 003.

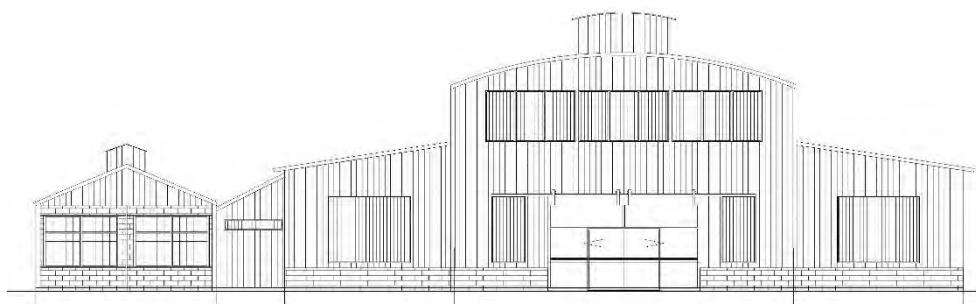
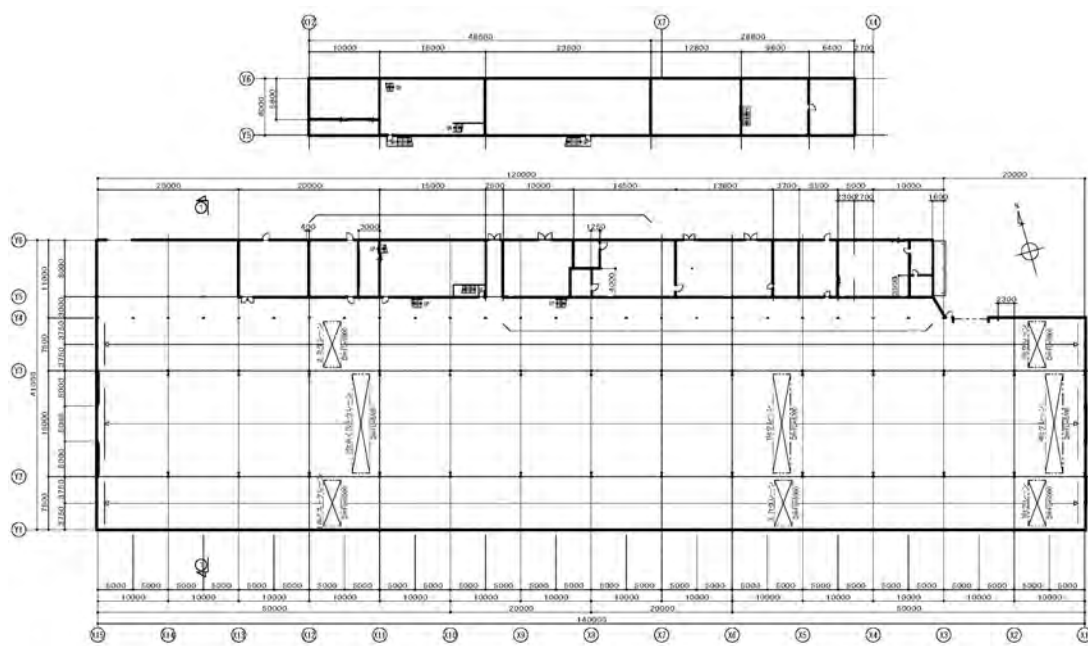
## Repair Workshop

(East side Exterior, Plan and East Elevation)



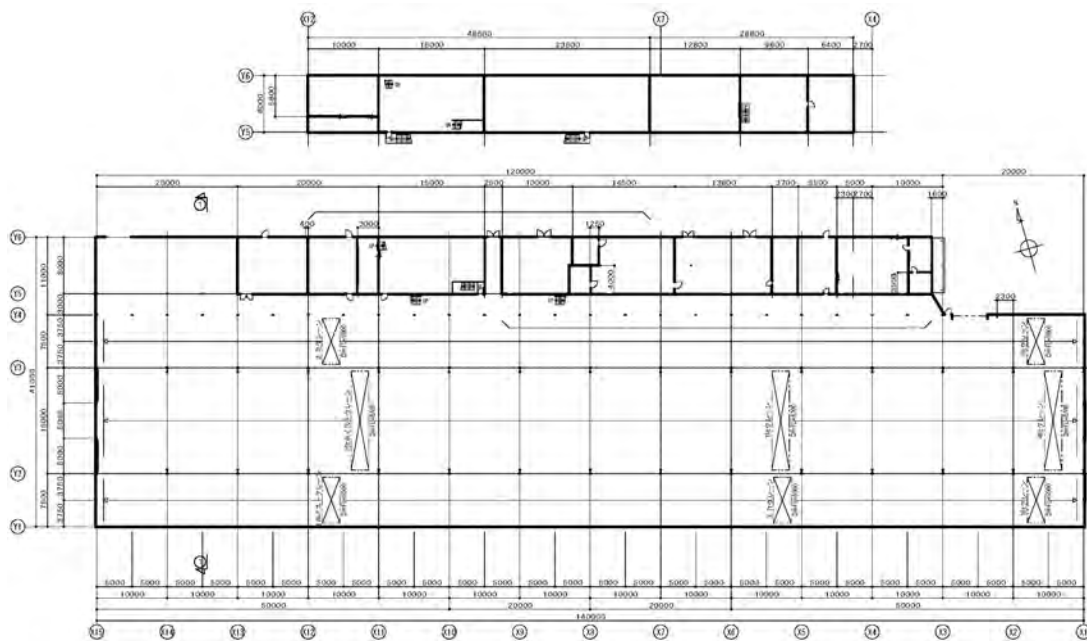
## Repair Workshop

(West side Exterior, Plan and West Elevation)



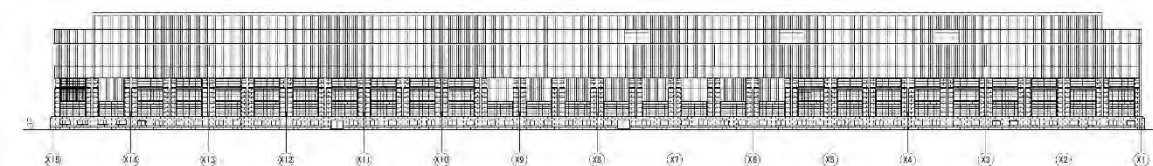
## Repair Workshop

(South side Exterior, Plan and South Elevation)



Camera

Position



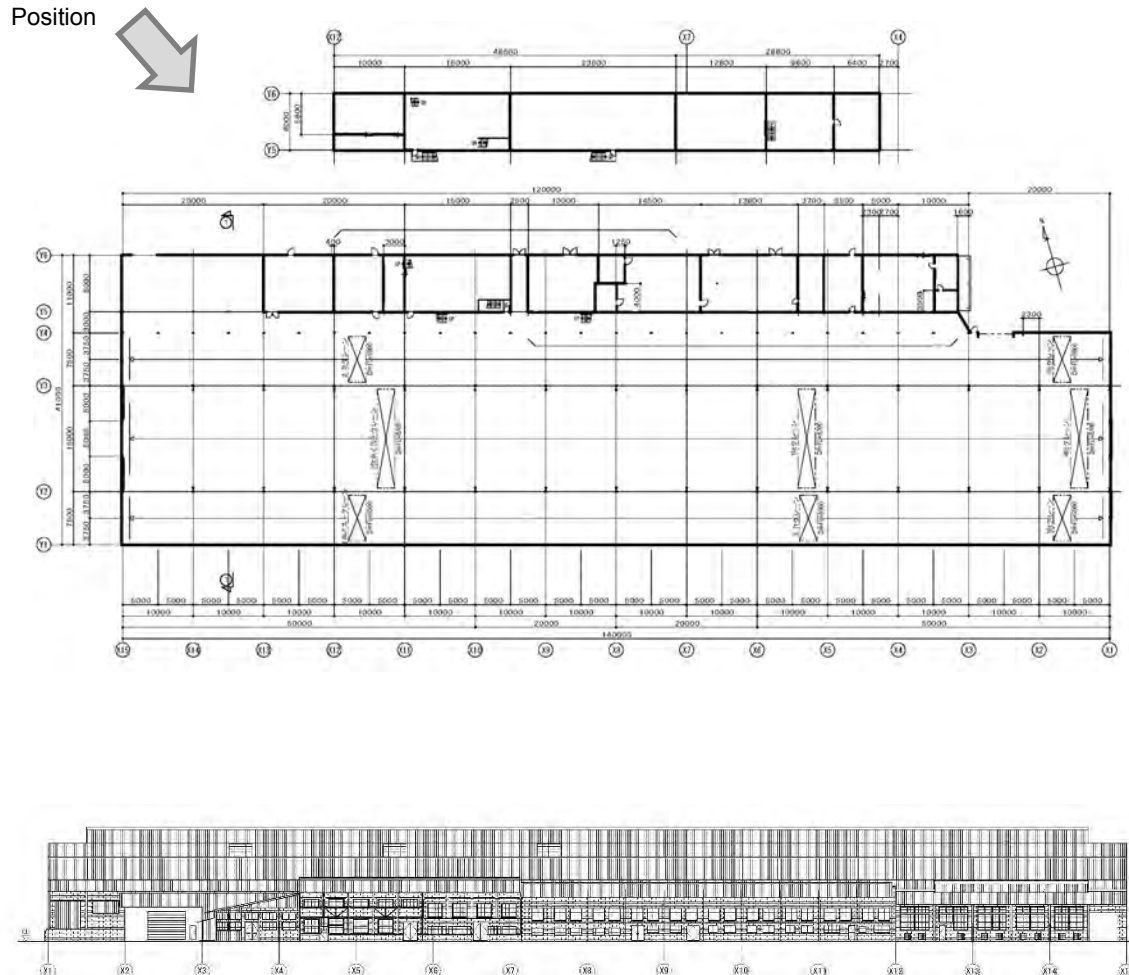
## Repair Workshop

(North side Exterior, Plan and North Elevation)



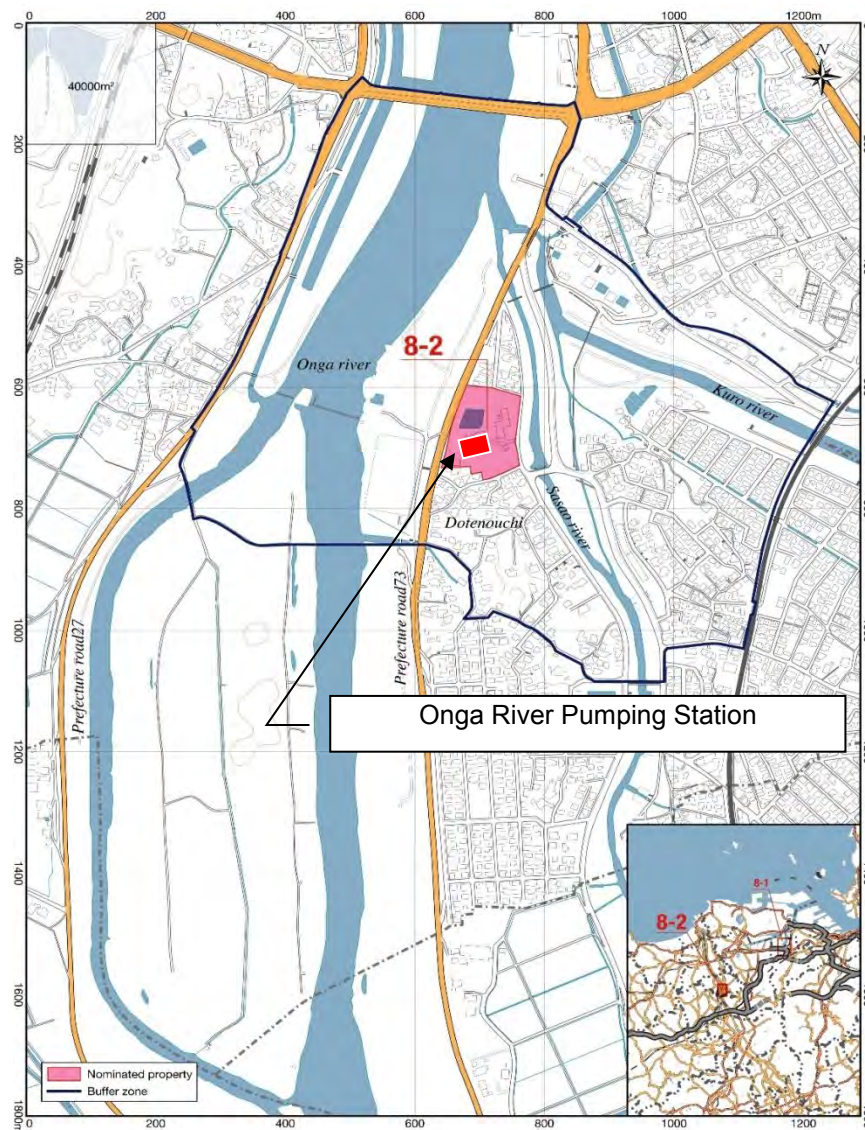
Camera

Position



### 3.1.4. Onga River Pumping Station

The Onga River Pumping Station is a brick masonry building housing operational water pumps built to provide water to the Yawata steelworks, a function that it maintains today. While the building is very largely intact, a number of changes have occurred over time that do not add to the significance of the property, and which call for restoration to enable the significance of the building to be conserved and presented to visitors.



As with the former forge shop and repair workshop, we are currently conducting investigations on seismic reinforcement, and we plan to separately report on the plan of countermeasure construction in 2018. Although it is preferable to restore most of external appearance concurrently with seismic reinforcement work, there is a possibility that some windows and gutters will require immediate conservation work. As a result of the current

survey, we are planning to carry out selected conservation work prior to seismic reinforcement work where such work is separated from projected seismic reinforcement work and does not require integration with it. The restoration work will be carried out in accordance with the "General Principles for Maintenance (CMP Table 5-2) (Guidelines)".

Over recent years a number of window openings have been overlaid with metal to prevent collapse of the window frames, and some window frames have been replaced with aluminium frames. The proposal is to remove this overcladding and metal framing, and restore or replace as necessary the timber window frames and glass.

The use of stronger glass to withstand typhoon damage may require slight modification of frame detailing, as in other buildings. The integration of conservation work with seismic reinforcement will also be determined in September 2017. In one area where windows were infilled with masonry walls to protect electrical equipment, the infill will be retained, as it is evidence of a significant change in the technology of the pumping station from steam to electric pumps in the 1950s. The brick masonry walls will be cleaned. Exposed steel frame components will have any rust removed and will then be treated with a rust-preventative coating.

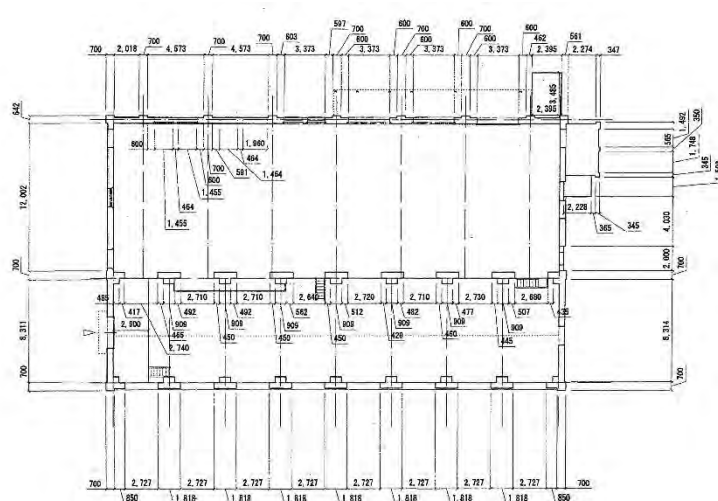
Redundant external service piping and trays will be retained where it is related to important phases in the operation of the pumping station. Operational services will be maintained and managed to avoid adverse impact on, or confusion or masking of, significant fabric.

Sympathetic metal sheet roof and roof drainage was recently replaced and has a life expectancy of 20-30 years, so will be maintained as it is.

The details of the proposed works are provided at Appendix 004.

## Onga River Pumping Station

(East side Exterior, Plan and East Elevation)



Camera  
Position

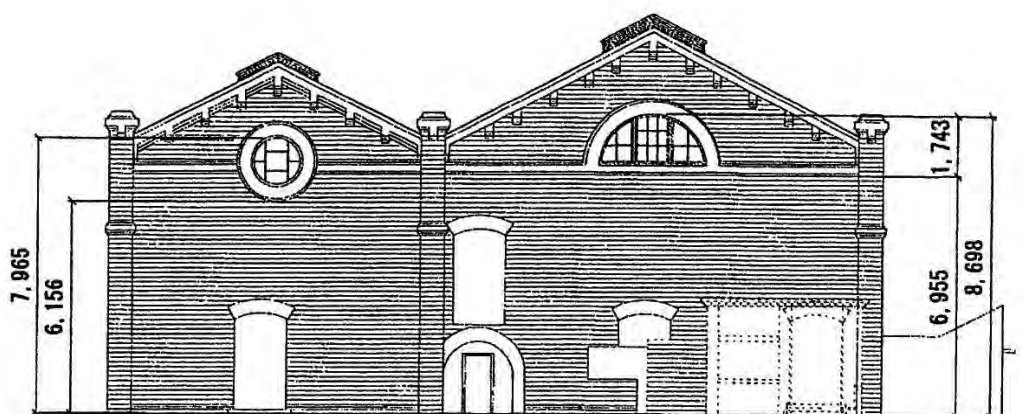
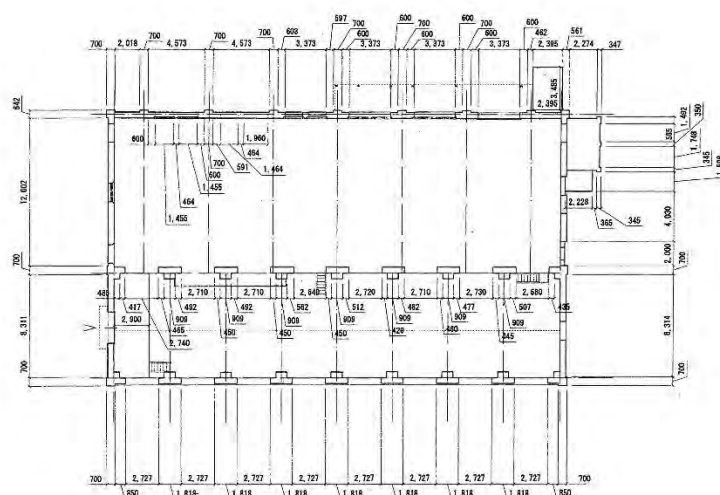


## Onga River Pumping Station

(West side Exterior, Plan and West Elevation)

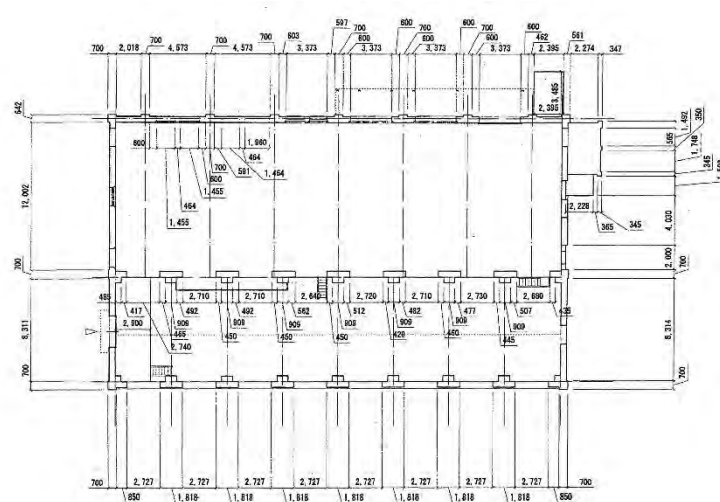


➔  
Camera  
Position

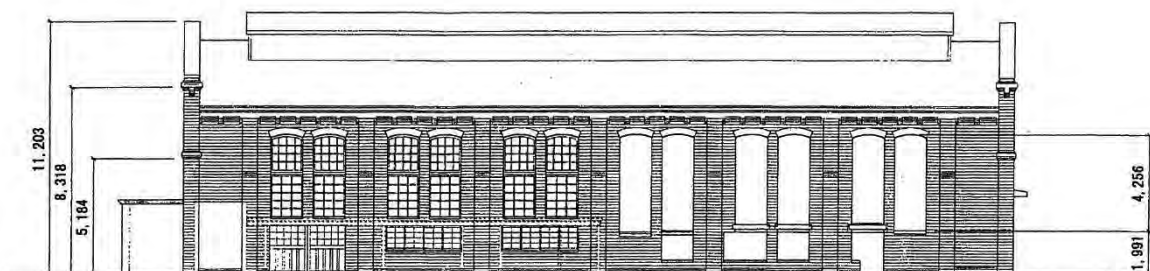


## Onga River Pumping Station

(South side Exterior, Plan and South Elevation)

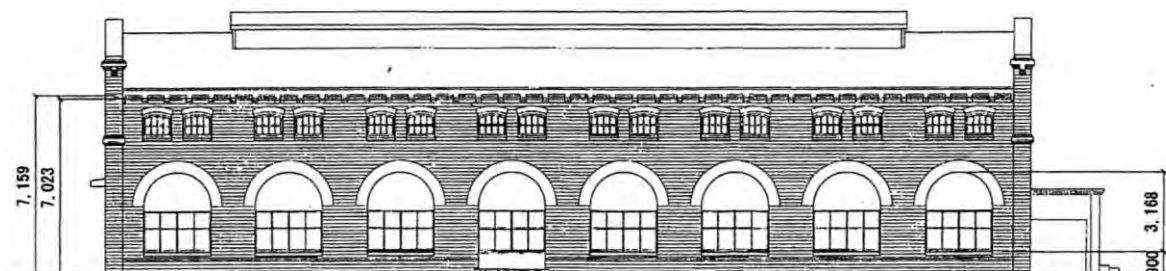
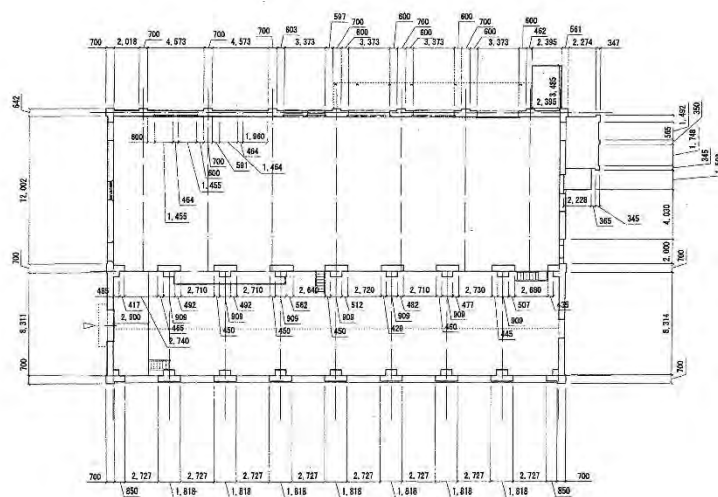


Camera  
Position



## Onga River Pumping Station

(North side Exterior, Plan and North Elevation)



### **3.1.5. Seismic reinforcement works**

Seismic reinforcement of the First Head Office Building was completed in 2014.

Consideration of the design of necessary seismic reinforcement at the other three buildings will be undertaken in conjunction with the detailed study of the existing structural frames. The aim will be to avoid any unnecessary reinforcement work, and to design new seismic reinforcement elements so as to minimise their visual and physical impact on the significant fabric, its understanding and presentation. The approach taken at the First Head Office Building, where the masonry walls are load-bearing, may inform the reinforcement needed at the Onga River Pumping Station, but are unlikely to be applicable in the Former Forge Shop and Repair Workshop, which are steel-framed buildings with infill panels of various materials.

There will be different timeframes for the primary external conservation works and the seismic reinforcement, due to the standards compliance processes that are associated with the latter. However, the managers are aware of the potential for seismic reinforcement to impact on conservation objectives, and hence the planning of them will be commenced in conjunction with the other conservation works and a compatible seismic approach determined as part of the conservation planning program. We are currently conducting investigations on seismic reinforcement, and we plan to separately report on the plan of countermeasure construction in 2018.

## **4. HERITAGE IMPACT ASSESSMENT FOR EVALUATING POTENTIAL IMPACT ON OUV**

### **4.1. Contribution to OUV**

The four buildings that are the subject of works proposals are all associated with establishment of the Imperial Steel Works, the first successful fully integrated iron and steel mill in Asia. They make up two of the component parts of the 23 component parts in the World Heritage Property *Sites of Japan's Meiji Industrial Revolution: Coal Mining, Iron and Steel and Shipbuilding*, related to the first successful transfer of Western industrialism to a non-Western nation, and characterised as the Meiji Industrial Revolution.

The brief synthesis of OUV states that:

A series of industrial heritage sites, focused mainly on the Kyushu-Yamaguchi region of south-west of Japan, represent the first successful transfer of industrialization from the West to a non-Western nation. The rapid industrialization that Japan achieved from the middle of the 19th century to the early 20th century was founded on iron and steel, shipbuilding and coal mining, particularly to meet defence needs. The sites in the series reflect the three phases of this rapid industrialisation achieved over a short space of just over fifty years between 1850s and 1910.

The first phase in the pre-Meiji Bakumatsu isolation period, at the end of Shogun era in the 1850s and early 1860s, was a period of experimentation in iron making and shipbuilding. Prompted by the need to improve the defences of the nation and particularly its sea-going defences in response to foreign threats, industrialisation was developed by local clans through second hand knowledge, based mostly on Western textbooks, and copying Western examples, combined with traditional craft skills. Ultimately most were unsuccessful. Nevertheless this approach marked a substantial move from the isolationism of the Edo period, and in part prompted the Meiji Restoration.

The second phase from the 1860s accelerated by the new Meiji Era, involved the importation of Western technology and the expertise to operate it; while the third and final phase in the late Meiji period (between 1890 to 1910), was full-blown local industrialization achieved with newly-acquired Japanese expertise and through the active adaptation of Western technology to best suit Japanese needs and social traditions, on Japan's own terms. Western technology was adapted to local needs and local materials and organised by local engineers and supervisors.

The components at Yawata and Onga River relate to the iron and steel making element of this industrial revolution, during the final phase of its development as Japan emerged as an industrial state on the world stage.

The management plan for the components identifies the contribution of each element to the OUV of the Property, as shown in Table 1.

**Table 1. Elements of the Imperial Steel Works that reflect OUV**

<b>Element</b>	<b>Contribution to OUV</b>
First Head Office	Demonstrates the adoption and adaptation of Western architectural design and construction techniques in Japan. Reflects the nature of technological exchanges that underpinned the development of Japan's industrial transformation. It also demonstrates (as the headquarters of the Yawata Steel Works) the organizational style adopted by Japanese steel makers to achieve the local development of an integrated steelworks.
Repair Shop	Demonstrates the transfer of German technology, followed very rapidly by the extension of the building in the same style using Japanese-made steel and design skills. This is reflected particularly in the progression of steel framing, the first section being labeled Gutehoffnungshütte (GHH), and subsequent expanded sections labeled with Yawata nameplate.
Former Forge Shop	Reflects one of the original functions of the steelworks, the original foundry function, necessary to the autonomous development of the steelworks, and the subsequent adaptation for materials testing. While its structure has been changed over time, the core building can still be recognized, and the changes it demonstrates echo the continuing expansion and refinement of the steelworks, and the adaptation of transferred technology to meet evolving local needs.
Onga River Pumping Station	Demonstrates the rapid growth of the steelworks and the increasing demand for water for steelmaking purposes. The pumping station is an accomplished "modern" industrial design reflecting the rapid development of design skills within the steelworks based on Western precedents but modified to meet Japanese conditions.

#### **4.2. Potential impact of proposals on OUV**

The proposed works at the **First Head Office building** are primarily internal, to complete the restoration of the building following seismic reinforcement work in 2014. The seismic work had an unavoidable impact on the original interior fabric of the building because of the necessity to add steel plates to wall elements to provide structural integrity that would

withstand earthquake movement, as well as reinforcing frames in the ceilings. The proposed works, which applies render and associated internal decoration to ceilings and walls, remediates that impact by returning the internal spaces to a condition that returns the finishes that existed prior to the seismic work, then decorates them as they were in the Meiji and subsequent significant periods. This work will restore the and make accessible the evidence of the integration of western and Japanese building technologies and craftsmanship that underpin the contribution of the building to OUV

The evidence on which this work is based is on extensive recording of existing and earlier physical condition prior to the works, and the study of historic photographs of the spaces. The provision of minimum necessary concealed services stipulated by domestic laws such as fire fighting equipment will be included in the restoration works.

The local government and the owner are in negotiation regarding the nature of future uses and the extent of visitor access that may be appropriate.

There will be no adverse impacts on the OUV of the Property, the impacts being positive in the form of physical conservation actions and enhanced presentation of the contribution of the First Head Office building to OUV.

The proposed works on the **Former Forge Shop and the Repair Workshop** are external, though elements such as the restoration of windows will also relate to internal conservation. Over one hundred years of changing operational use and selective maintenance has resulted in some neglected elements that have deteriorated. The works are to provide stabilisation and restoration for these building elements, and to bring the condition of the buildings to the point where ongoing maintenance is achievable.

There may be some loss (and like-for-like replacement) of deteriorated original fabric, but the overwhelming outcome will be the active conservation of the buildings and their long-term preservation as elements contributing to OUV. This work will improve the condition and appearance of the buildings, make their built form and history more understandable and enhance their presentation to visitors, who will view the buildings from the First Head Office precinct.

The proposed works at the **Onga River Pumping Station** are external, though elements such as the restoration of windows will also relate to internal conservation. The main works relate to the conservation/replacement of windows that have deteriorated over the years and been over-clad with other materials to prevent collapse. Window frames will be restored or replaced if they cannot be conserved, in a way that replicates the original window detailing.

Other works will clean and stabilise the external walls, and the ivy that has grown on the building in recent years has been removed.

There may be some loss (and like-for-like replacement) of deteriorated original fabric, but the overwhelming outcome will be the active conservation of the building and its long-term preservation as a component contributing to OUV. While public access into the building is not permitted due to its industrial operation, a visitor viewing area with interpretative panels has been developed at a view point on the boundary, and the proposed conservation works will enhance the visitor understanding and appreciation of the building.

#### **4.3. Assessed heritage impact**

In the case of the First Head Office Building, the works have two purposes: to restore the interior following already completed seismic reinforcement works; and to conserve the interior in form and finishes that replicate original or significant later uses of the building, while considering the future adaptive re-use as an interpretation facility for visitors.

In both cases the works will conserve OUV and enhance its understanding.

In the case of the Former Forge Shop, Repair Workshop and the Onga River Pumping Station, the works are to conserve the heritage values of the buildings. While the conservation actions needed to remediate deferred maintenance on elements of the buildings will result in some loss of original fabric, this will be largely limited to window frames, which, where they cannot be conserved, will be replaced with timber frames based on the original designs. All works are necessary to bring the buildings to a condition where their ongoing conservation can be guaranteed, and their contribution to OUV can be presented and appreciated.

The proposed works will not have an adverse impact on the range of heritage values of the buildings, and will not diminish the contribution of the elements to the OUV of the Property. They will ensure the conservation of the buildings, establish a sound basis for appropriate future uses, and the extent of visitor access which is currently being negotiated between the local government and the owner.

#### **5. Relevant policies in the property Management Plan or Management System**

The following are policies and strategies that are particularly relevant to the current works proposals. They are drawn from the *Conservation Management Plan: The Imperial Steel Works, Japan* (Nippon Steel and Sumitomo Metals, Kitakyushu City and Nakama City. 2014). These policies have been complied with in developing the current works program.

	Policies	Strategies
1	<p><b>Significance will form the basis of conservation management and improvement plans.</b></p> <p>The statements of the significance of the property set out in Chapter 3 shall be a basic principle for the future conservation management and improvement plans.</p> <p>In order to conserve the heritage values of the Property while continuing production at the working steelworks, every change or improvement work in Component parts shall be examined in terms of its potential impact on significance.</p>	<p>Any proposed changes or works at the component parts shall be considered in relation to its potential impacts on significance. Proper management will be conducted according to the Landscape Act for the protection of the component elements of the First Head Office, the Repair Shop, the Former Forge Shop, and the Onga River Pumping Station. In addition to this, the Port and Harbor Act protects the component part to preserve the setting of three facilities in the Yawata Steel Works compound.</p> <p>Overall management and conservation of the component parts of the Yawata Steel Works are conducted based on “Strategic Framework” established by the Cabinet Secretariat through collaboration with interested parties.</p> <p>The Local Conservation Council established under the ‘Strategic Framework’ will ensure that this policy is a principle driver in its decisions on site management.</p>
5	<p><b>Utilization of expert advice and technical supports.</b></p> <p>In the complex issues of conservation affecting the component parts, advice shall be sought from specialists having adequate experience in the conservation management of industrial heritage. Appropriately skilled personnel shall undertake the works which may affect elements of the component parts having heritage value.</p>	<p>5.1 Involvement of appropriate heritage expertise Involvement of the personnel having necessary heritage skills is critical for decisions potentially impacting on heritage values.</p> <p>Accordingly, advice shall be sought from specialists, such as architects, historians, civil engineers or archaeologists, depending on the issue involved.</p>
10	<p><b>Conservation of the property and its significant elements.</b></p> <p>The Property and four elements (the First Head Office, the Repair Shop, the Former Forge Shop, and the Onga</p>	<p>10.1 On planning future changes to the component parts, the heritage values of the elements or spaces involved shall be recognized and protected. In addition, when drafting the plan, appropriate and professional heritage advice shall be sought as outlined in Policy 5, to identify actions that will achieve the</p>

<p>River Pumping Station) shall be conserved since they are determined to have high values in the Valuation in Chapter 3.</p>	<p>conservation of the heritage values. Appropriate conservation processes might include preservation, restoration, reconstruction, adaptation, and maintenance depending on the nature of heritage values and management issues involved. Significant interior spaces include:</p> <ul style="list-style-type: none"> <li>• the rooms and corridors of the First Head Office;</li> <li>• the main large space in the Former Forge Shop;</li> <li>• the interior space of the Repair Shop;</li> <li>• The pump room of the Onga River Pumping Station.</li> </ul> <p>An additional significant space is the view corridor linking the First Head Office and the waterfront.</p> <p>10.2 The owner responsible for on-site management decisions and local governments having jurisdictions over the Landscape Act and the Port and Harbor Act shall recognize their respective management responsibility.</p> <p>10.3 Continuous maintenance of the four buildings is a top priority, and the highest priority for conservation measures will be given to components at greatest risk from decay of structural instability.</p> <p>10.4 The plan of earthquake strengthening works for the First Head Office, being implemented in 2013-14, is attached as an appendix (Chapter 8) to supplement the CMP.</p> <p>As described in Policy 5, the plan is drafted with consultation with specialists, and will be revised regularly based on professional advice provided.</p> <p>The earthquake strengthening works for the main building will finish by FY 2013 and then the details of interior works will be examined. At this moment, the plans of the interior works are not clarified, but will be guided by the principle of minimizing impact on remaining heritage fabric, and planning new work to be compatible with conserving and presenting heritage values of the building.</p> <p>Records (CADs) of the decorations such as plaster and wooden</p>
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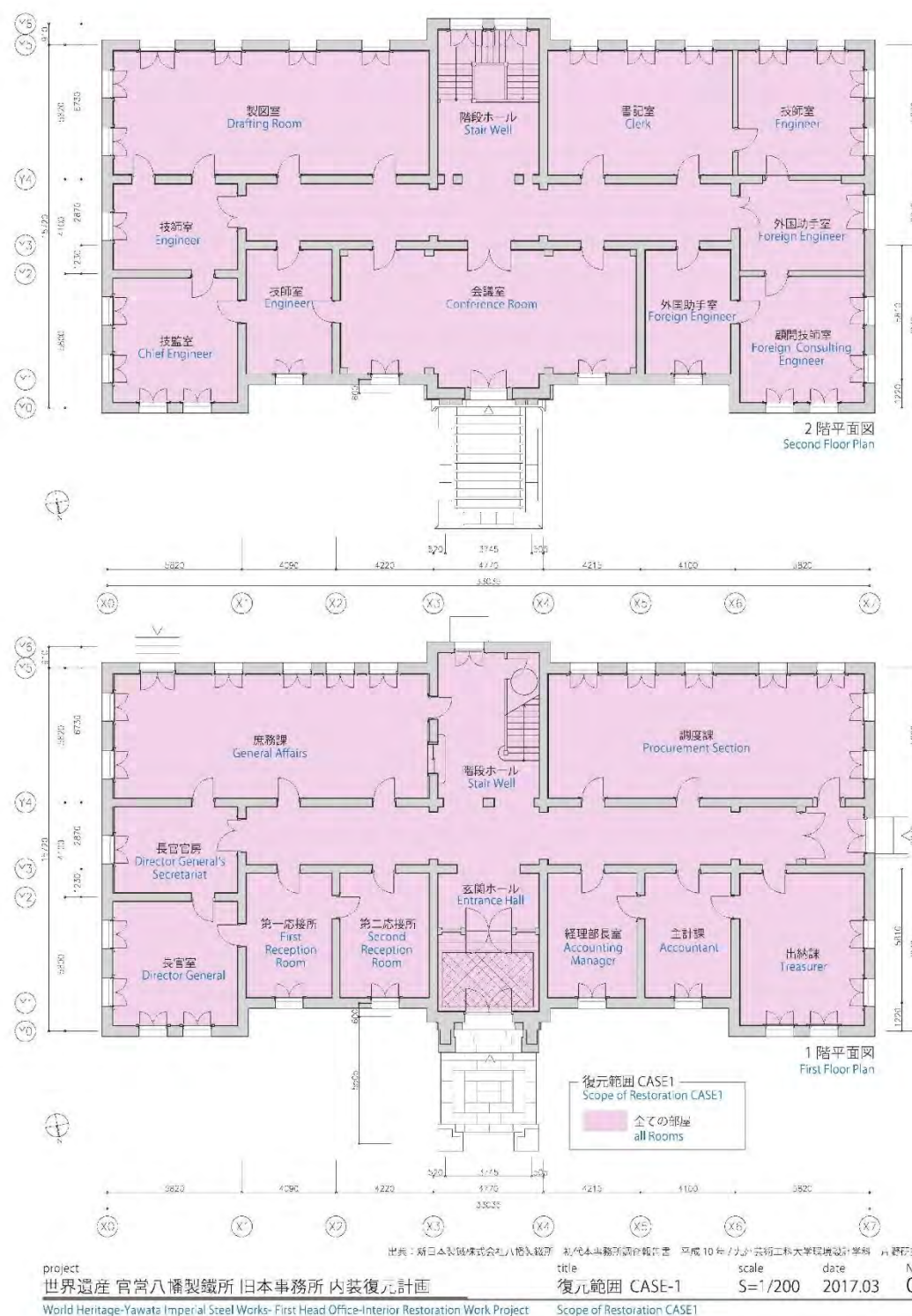
		<p>frames, etc., inside the building are collected before undertaking the earthquake strengthening works to provide a basis for subsequent restoration.</p> <p>10.5 “Removal” of any significant structure in the component parts is prohibited. In addition, “major reconstruction, partial removal, etc.” including the following actions are limited and require mayor-level permission (following consideration by the Local Conservation Council):</p> <ul style="list-style-type: none"> <li>• Major reconstruction, remodeling, or change of color shades causing substantial changes in external appearance;</li> <li>• Partial removal of a facility causing substantial changes in external appearance;</li> <li>• Disposal of the central and aisle overhead cranes in the Repair Shop.</li> </ul> <p>Details are described in Table 5-3 “Restrictions and criteria for changing existing conditions.”</p>
11	<p><b>Maintenance planning and improvement works .</b></p> <p>The component parts shall be well maintained and all maintenance and repair planning shall respect the heritage significance of the component parts. Maintenance and repair works will be conducted based on maintenance plans that are informed by:</p> <ul style="list-style-type: none"> <li>• Accurate knowledge of each part of the building or site, its materials, literature and services and their heritage significance;</li> <li>• A careful analysis of actions needed to maintain working activities, and their potential impact on heritage values;</li> <li>• regular inspection/monitoring (see</li> </ul>	<p>11.1 Draft and implement a basic maintenance plan based on the information from an ongoing monitoring program.</p> <p>11.2 Draft and establish an overall life-cycle management plan for the component parts in active working use. Maintenance management plan for the prioritized reforms will be carried out according to Chapter 4.4 For long-term maintenance, follow the results of consultation held every fiscal year.</p> <p>11.3 When “repairing,” “replacing,” or “introducing new materials” for the roofs, windows, doors, floors, or external wall bricks, etc., in each element, use design, style, materials and colors similar to the existing element, and if it is difficult to do so, refer to the original specifications or use materials or colors that are compatible with the heritage values of the building (and hence also meet the requirements of the Landscape Act.)</p> <p>Details of the maintenance management for the facilities are</p>

	also Policy 14); and • Timely preventive conservation management and prompt response for repairs when damage occurs.	described in Table 5-2 “General Principles (Guidelines) for Maintenance
12	<p><b>Changes to interior spaces of cultural significance</b></p> <p>Changes to significant spaces listed in Strategy 10.1 shall conform to the policies described in the conservation management plan and shall not diminish the values of the spaces. The values of these spaces generally rely on elements such as remaining partition and external walls, floors, or ceiling decorations, original room sizes, surviving original use or later uses consistent with the original, and original decorations, fittings and furniture.</p> <p>Where important earlier built elements have been hidden or partially removed, actions to make the elements visible or to partially reconstruct them for interpretation to visitors, should be encouraged.</p>	<p>The changes to the interior in the First Head Office caused by currently conducted earthquake strengthening works may be unavoidable. At the time of writing (2013), the plans for the interior works are being examined to minimize its impact on significant elements of the First Head Office. Where necessary, the design, style, materials and colors consistent with the documented construction and details will be used taking care to make the old and new fabric similar enough not to be distracting, but making sure good records are kept of what is original and what is new. If original elements have been removed (such as the stairway) refer to the original specifications and use design, materials or colors that replicate the original or are compatible with the significance of the building.</p> <p>The Repair Shop and the Onga River Pumping Station are currently in operation, and no changes to the interior are planned except for the purpose of operation. The changes of working purpose are, if any, conducted with consideration to the conservation of heritage value. Maintenance of the existing significant internal details will be the main objective.</p> <p>The Former Forge Shop is currently used for historical material storage, and no major changes to the interior are planned at the moment.</p> <p>In the case of the Repair Shop, Former Forge Shop and the Onga River Pumping Station, the window frame systems have deteriorated and require replacement or stabilization in the near future. It is necessary to consider the options of reconstruction of the original window design and materials, or the adoption of a visually similar design in new materials.</p> <p>The changes to the interior of each element shall be conducted</p>

		based on Table 5-2 “General Principles (Guidelines) for Maintenance Management.”
14	<p><b>Monitoring of the condition of the property</b></p> <p>The management body shall establish and implement a program to periodically monitor (follow-up) the condition of the buildings, elements, facilities, and equipment of heritage value.</p> <p>In addition, the management body determines the priority of remedial actions in response to the nature and consequences of the problem revealed.</p>	<p>14.1 Responsible party of monitoring Since multiple agencies relating to the management of the component parts monitor the component parts, Kitakyushu City and Nakama City, under the coordination by the Counsellor at the Regional Development Agency, Cabinet Secretariat, implement monitoring of the three elements in Yawata Steel Works compound and the Onga River Pumping Station and take records, respectively, to collect information and implement appropriate conservation.</p> <p>14.2 Monitoring program As described in: Table 6-1: “Elements that might negatively impact on the OUV &amp; Monitoring Indicators” and Table 6-2: “Monitoring Indicators and Observation Methods.”</p> <p>14.3 Monitoring program shall be coordinated with daily maintenance of the component parts.</p>
15	<p><b>Public access</b></p> <p>The allowable extent of visitors’ access to the property shall be determined.</p>	<p>15.1 The component parts are, in part, a working industrial site, and therefore public access has to be controlled or limited accordingly. Public access to the currently operating Repair Shop and Onga River Pumping Station are to be restricted. Public access to the First Head Office will be examined deliberately. As for Former Forge Shop, there is no plan to open its interior to the public.</p> <p>In each case, the effect of public access shall be monitored with a view to limiting it should the conservation of the buildings’ heritage value be placed at risk by visitor impact. Restrictions on access might change over time, so the access provisions should be revised at least every 6 years.</p>
17	<p><b>Records of change and maintenance</b></p> <p>The management body shall keep records of any substantial intervention or change to the</p>	<p>17.1 Records of actions taken to conserve or manage the component parts (including those to implement these policies) and maintenance plans shall be continuously maintained by the entity undertaking the work. These records should be organized and indexed so that they can be readily accessed by the</p>

	<p>component parts, including records about maintenance.</p>	<p>manager at any time.</p> <p>Items to be recorded include maintenance programs, refurbishment projects, conservation actions (preservation, restoration, reconstruction, and adaptation), changes of use, interpretation/introduction works such as exhibition, etc., and any other actions that might affect the heritage element of the component parts.</p> <p>Record the plaster walls and decorations removed by the earthquake strengthening work for the First Head Office, substantial changes and intervention to the component parts and other actions relating to maintenance management.</p>
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## Interior Restoration Plan for First Head Office Building.


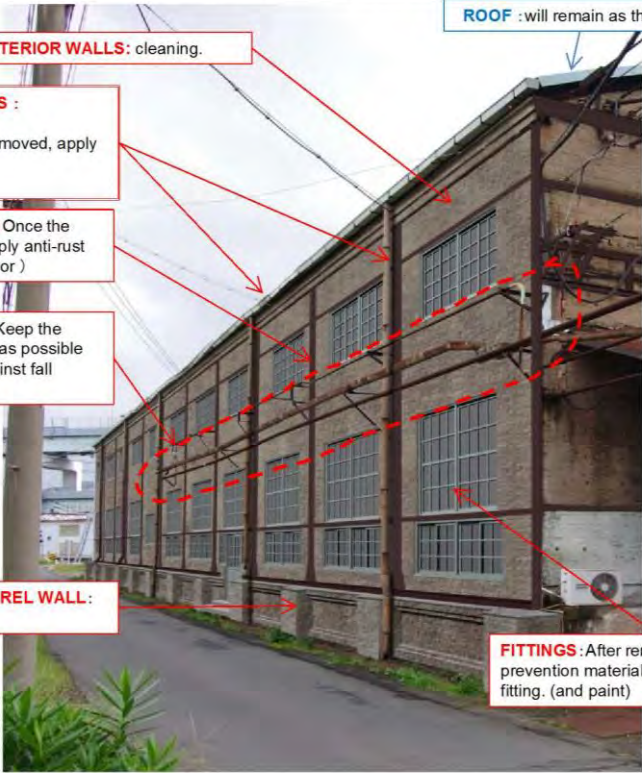


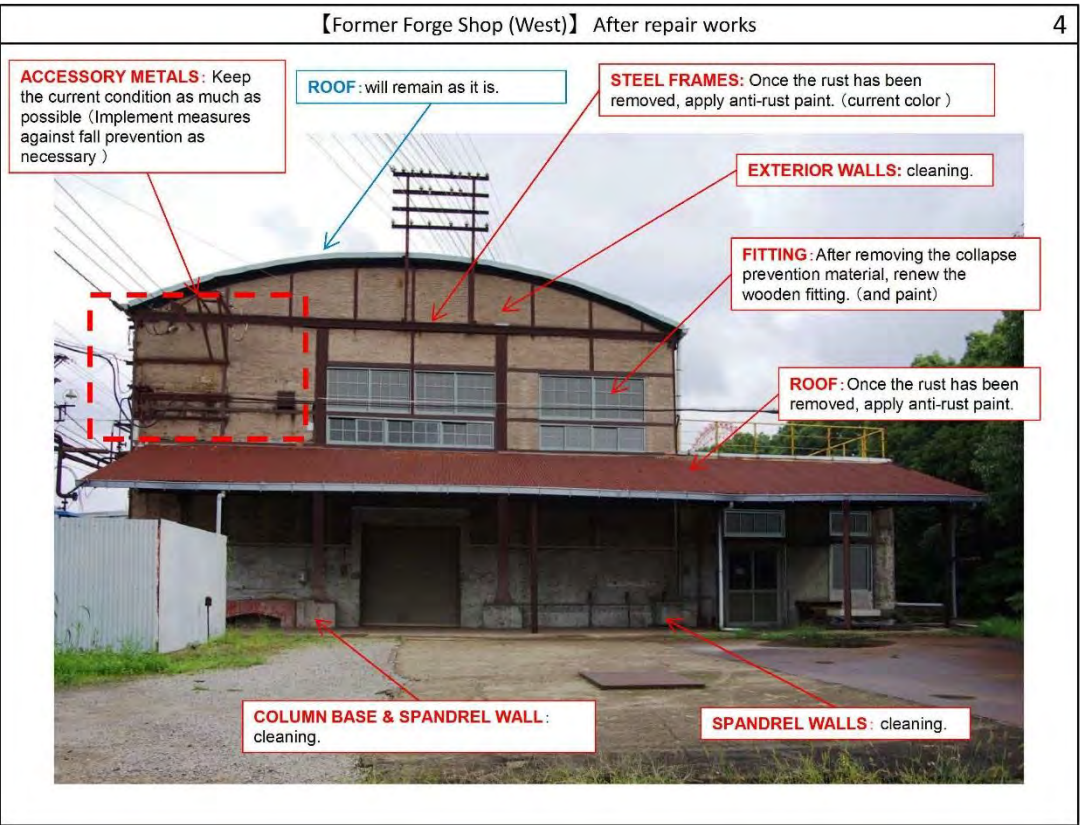


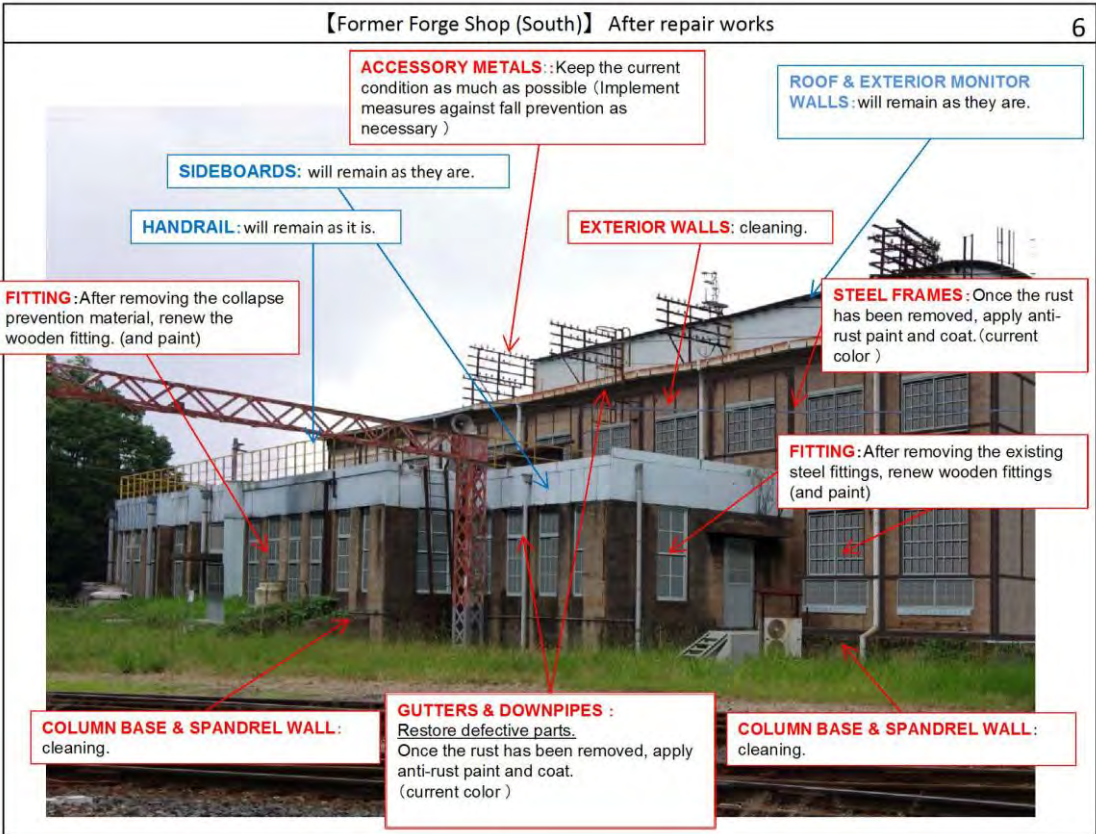
2 階会議室復元イメージ  
Restoration Image of the Meeting Room on the 2nd floor

project	title	scale	date	No.
世界遺産 官営八幡製鐵所 旧本事務所 内装復元計画 World Heritage-Yawata Imperial Steel Works- First Head Office-Interior Restoration Work Project	復元イメージ 1 Restoration Image1	-	2017.03	01

Exterior Restoration Plan for Former Forge Shop.

【Former Forge Shop (North)】 Before repair works		1
		
【Former Forge Shop (North)】 After repair works		2
 <p><b>EXTERIOR WALLS:</b> cleaning.</p> <p><b>GUTTERS &amp; DOWNPIPES :</b> Restore defective parts. Once the rust has been removed, apply anti-rust paint and coat. (current color )</p> <p><b>STEEL-FRAME PILLARS :</b> Once the rust has been removed, apply anti-rust paint and coat. (current color )</p> <p><b>ACCESSORY METALS :</b> Keep the current condition as much as possible (Implement measures against fall prevention as necessary )</p> <p><b>COLUMN BASE &amp; SPANDREL WALL :</b> cleaning.</p> <p><b>ROOF :</b> will remain as they are.</p> <p><b>FITTINGS :</b> After removing the collapse prevention material, renew the wooden fitting. (and paint)</p>		





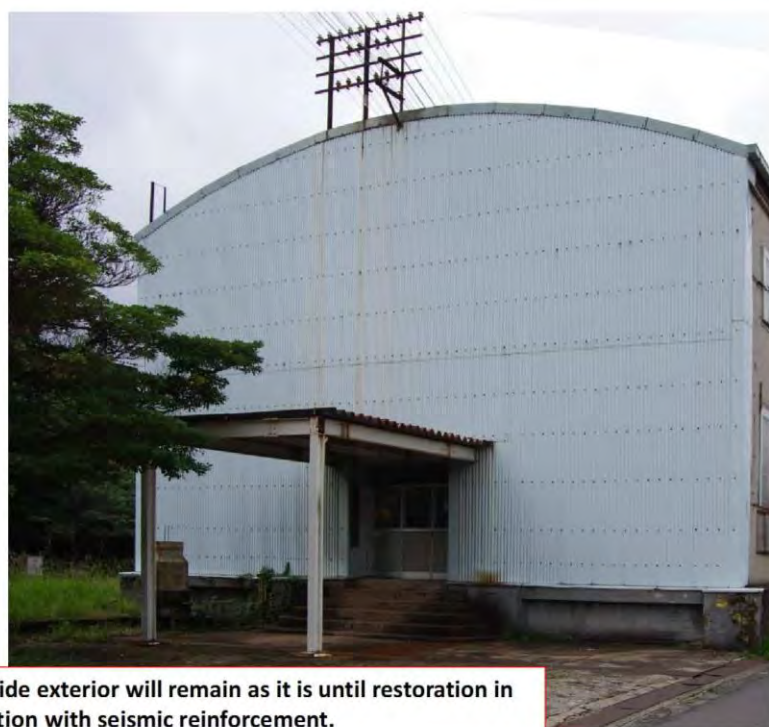
【Former Forge Shop (East)】 Before repair works

7




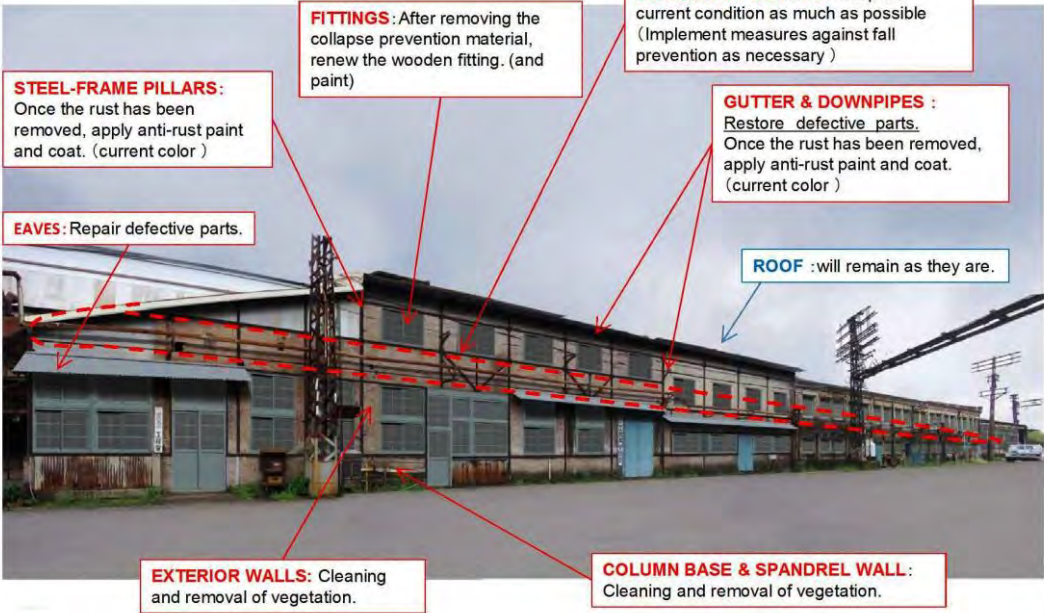
【Former Forge Shop (East)】 \*will remain as it is.

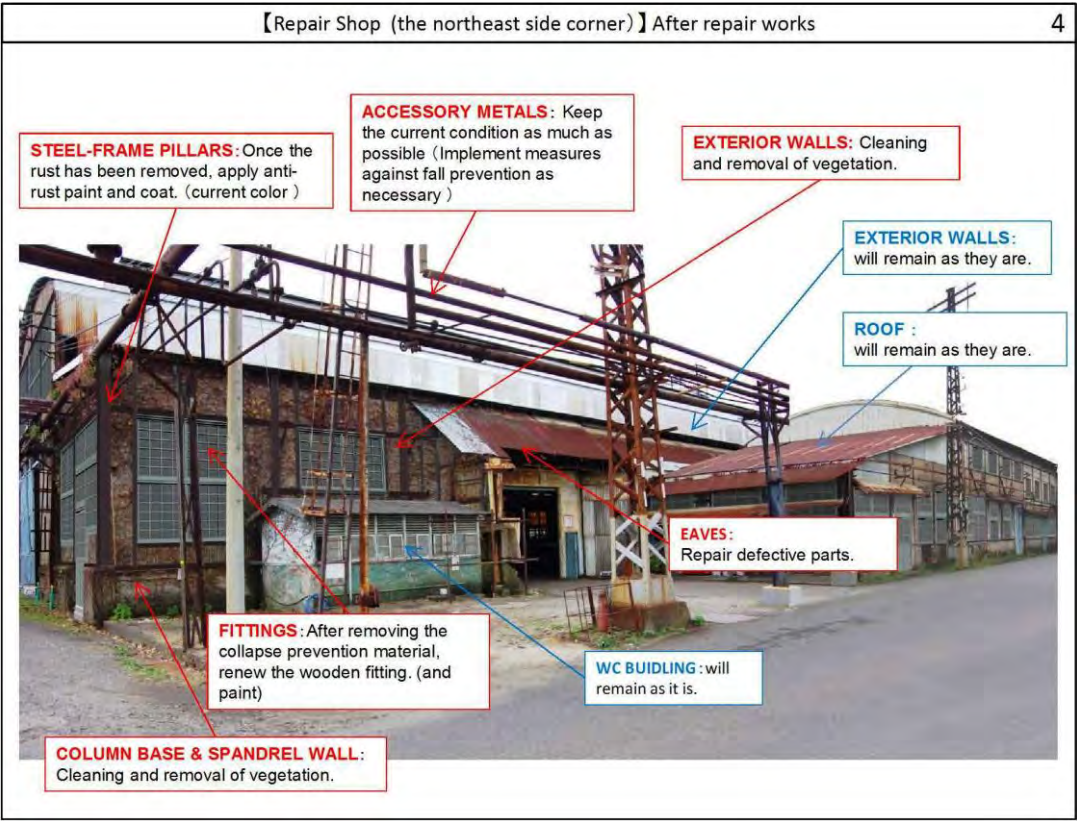
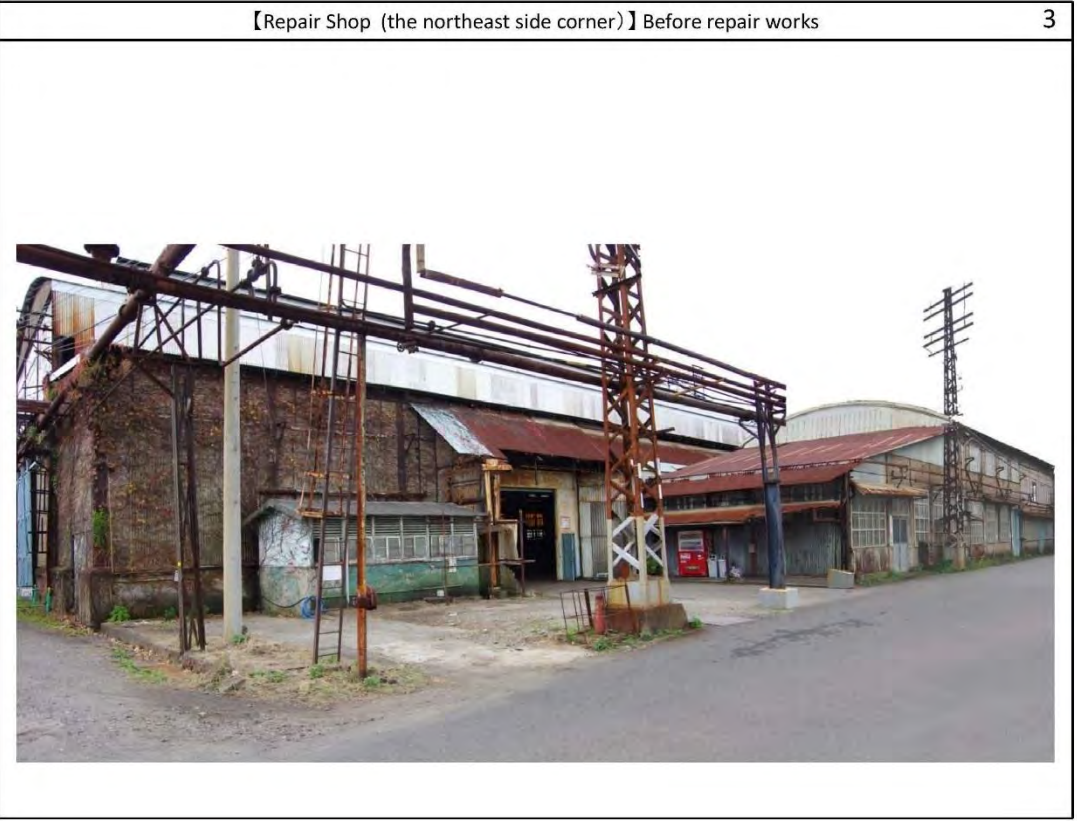
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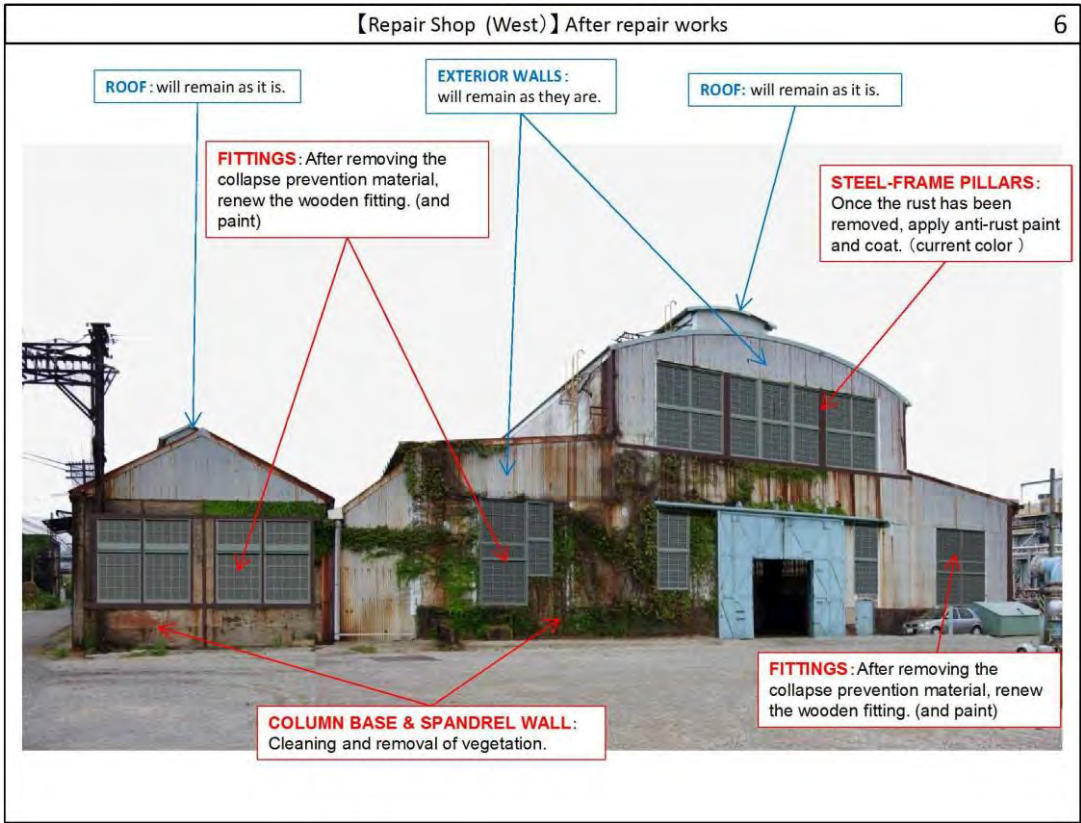


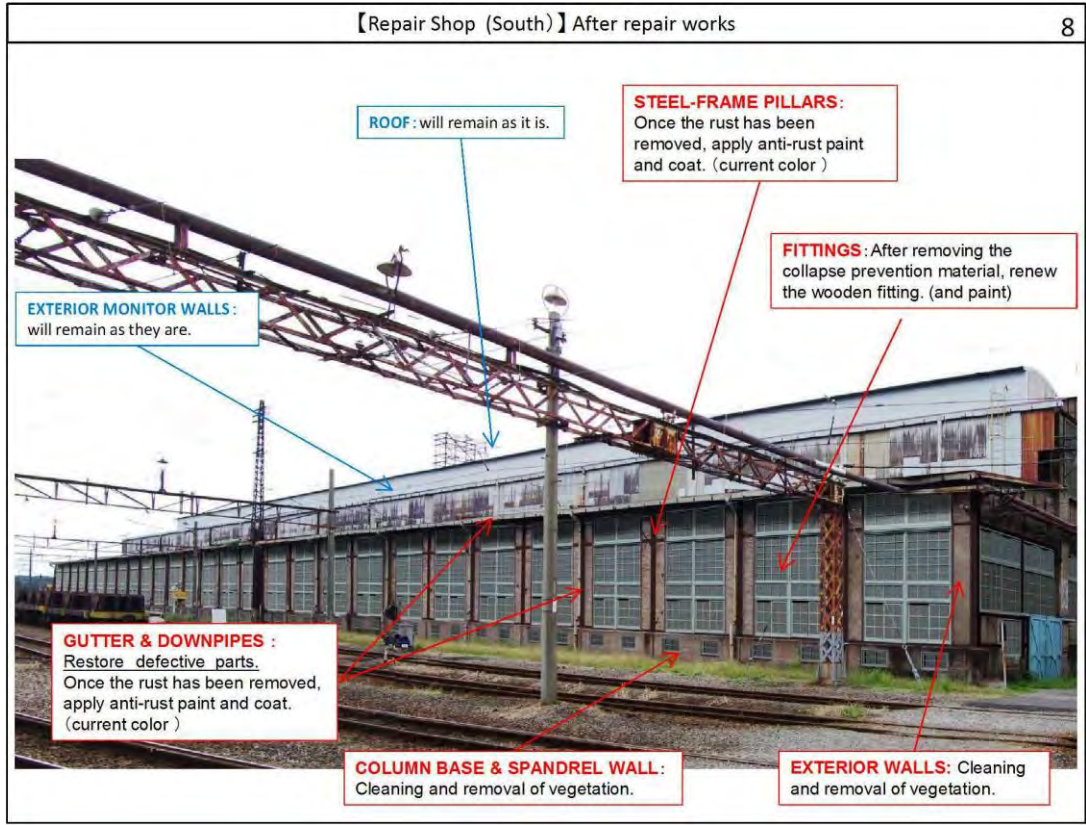
\* East side exterior will remain as it is until restoration in conjunction with seismic reinforcement.

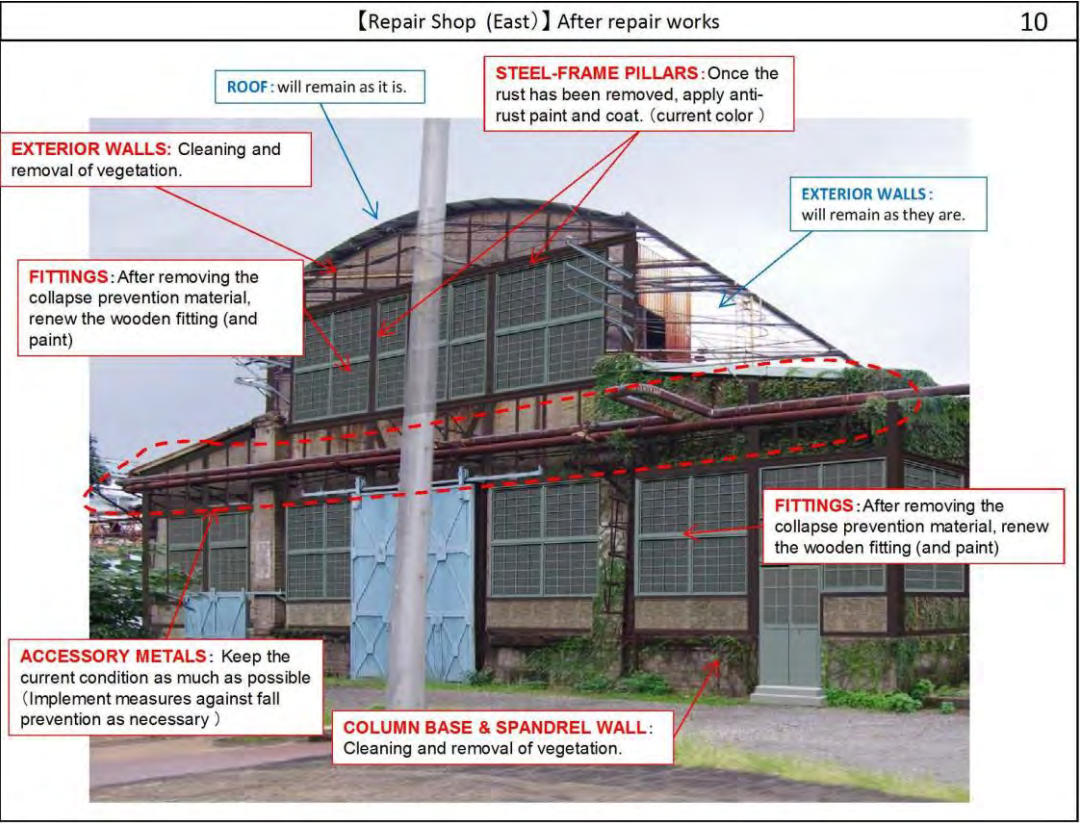
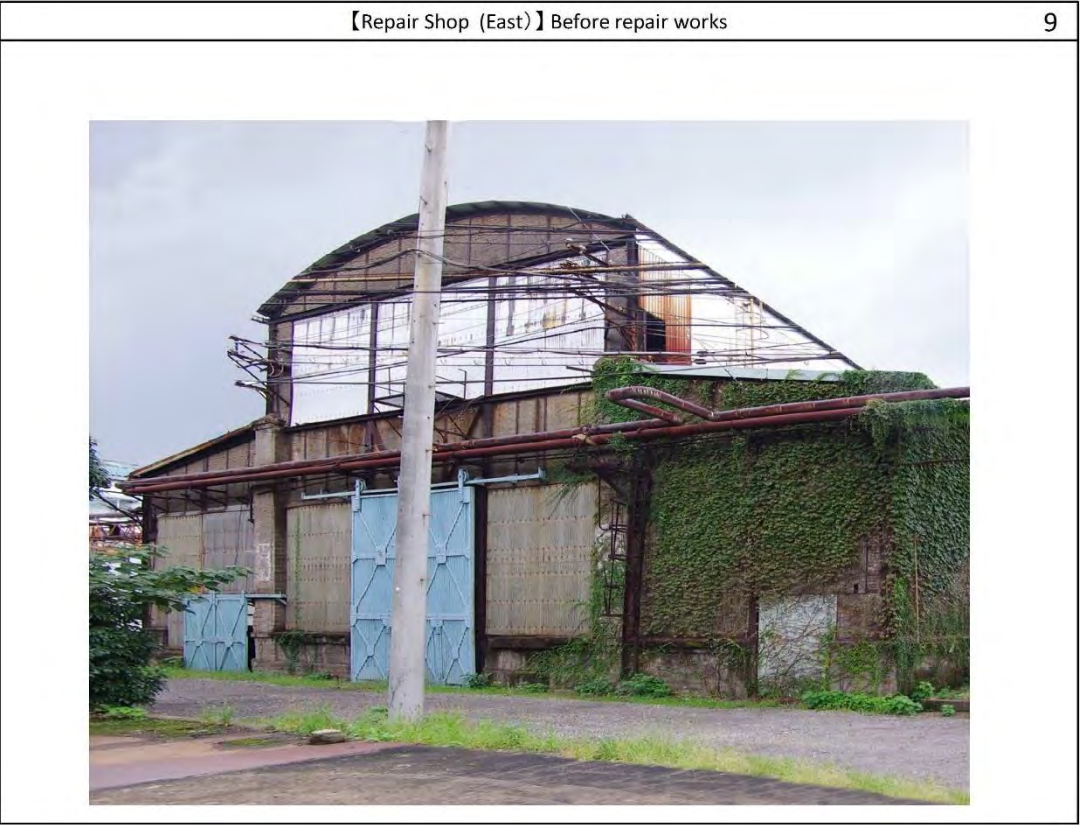
Exterior Restoration Plan for Repair Shop

【Repair Shop (North)】 Before repair works	1
	
【Repair Shop (North)】 After repair works	2
 <p><b>STEEL-FRAME PILLARS:</b> Once the rust has been removed, apply anti-rust paint and coat. (current color )</p> <p><b>FITTINGS:</b> After removing the collapse prevention material, renew the wooden fitting. (and paint)</p> <p><b>ACCESSORY METALS:</b> Keep the current condition as much as possible (Implement measures against fall prevention as necessary )</p> <p><b>GUTTER &amp; DOWNPIPES :</b> <u>Restore defective parts.</u> Once the rust has been removed, apply anti-rust paint and coat. (current color )</p> <p><b>EAVES:</b> Repair defective parts.</p> <p><b>ROOF :</b> will remain as they are.</p> <p><b>EXTERIOR WALLS:</b> Cleaning and removal of vegetation.</p> <p><b>COLUMN BASE &amp; SPANDREL WALL :</b> Cleaning and removal of vegetation.</p>	

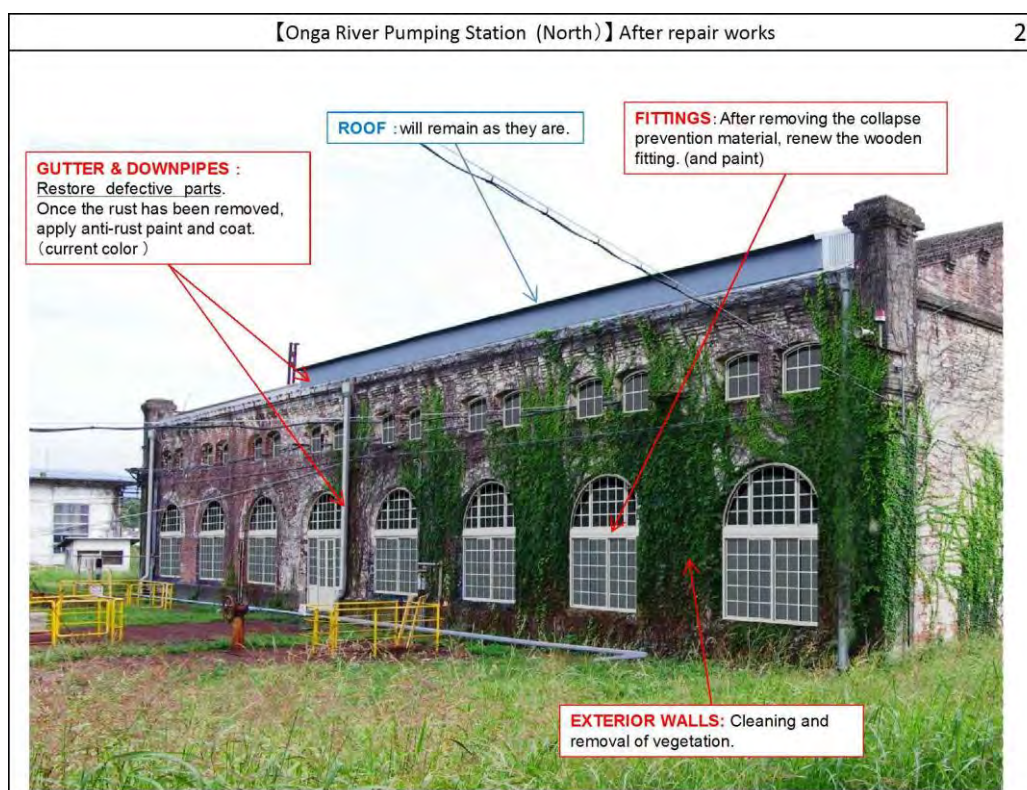








## Exterior Restoration Plan for Onga River Pumping Station.



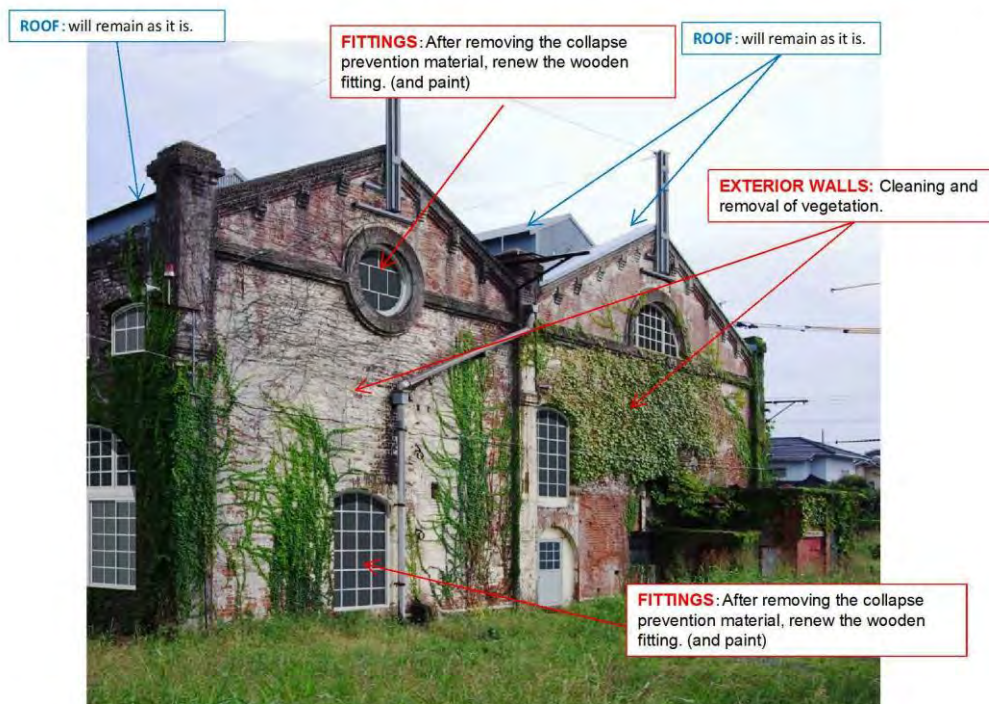
【Onga River Pumping Station (West)】 Before repair works

3



【Onga River Pumping Station (West)】 After repair works

4



【Onga River Pumping Station (South)】 Before repair works

5



【Onga River Pumping Station (South)】 After repair works

6

