Universal Design Guidelines for Facility Implementation

GL 4-6-1 June 2022

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Introduction (background to the revision)

With the event theme “Designing Future Society for Our Lives” and based on the venue design concept “Unity in Diversity,” the Expo 2025 Osaka, Kansai, Japan aspires to realize a universal design that is inclusive for all visitors coming from around the world, regardless of their background such as nationality, culture, race, gender, generation, and physical or otherwise disability.

For this reason, the organiser, that is the Japan Association for the 2025 World Exposition, prepared and published the *Universal Design Guidelines for Facility Implementation* (hereinafter referred to as “the UD Guidelines”) in July 2021, aiming to provide participating national governments, enterprises, etc. with common standards concerning the implementation of facilities on the Expo site in order to ensure an accessible and convivial environment for all visitors. The original UD Guidelines were based on the regulations provided for in the *Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc.*, *Osaka Prefectural Ordinance on Welfare Communities*, and *Osaka Municipal Government Guidelines for Accessible Urban Planning*, as well as some recommendations based on the characteristics of the Expo as an international event.

To implement a comprehensive revision of the UD Guidelines, every detail was reviewed from the perspectives of “equity,” “dignity”, and “functionality,” that are set forth as fundamental principles of the Accessibility Guide by the International Paralympic Committee, discussed with participation of people with disabilities in various forms, including physical (auditory, visual, and physical impairments), intellectual, psychological, and developmental, to enhance the accessibility of the Expo site for all visitors. The revision reflected these people’s viewpoints while taking into consideration the Accessibility Guidelines adopted for the Tokyo 2020 Olympic and Paralympic Games, aiming to achieve the universal design that meet the international standards.

In order to realise such universal design at the Expo, the Organiser shall pursue the implementation of the Expo site according to the revised UD Guidelines, and Participants shall comply with these Guidelines as they design and construct their pavilions etc. Furthermore, it is anticipated that the revised UD Guidelines will be proactively adopted for community development by a diversity of people, including those who are not directly involved in the Expo, to promote universal design in urban planning in the world, building on the success of the Expo as its legacy.

[Reference: the theme of the 2025 World Exposition (the Expo 2025 Osaka, Kansai, Japan)]

The theme “Designing Future Society for Our Lives” makes individuals think how they want to live and how they can maximise their potential. It is also intended to drive co-creation by the international community in designing a sustainable society that supports individuals’ ideas of how they want to live.

The venue design concept “Unity in Diversity” aspires to bring about a place for union between diverse cultures and lifestyles from all over the world, allowing people to celebrate rich diversity and, at the same time, experience connection beyond the divisive world, so that visitors will be able to experience unity in diversity and one world shared by innumerable diverse beings.

1. Introduction

1-1. Purpose of the UD Guidelines

These Guidelines provide for common standards of, and approaches to, the on-site facility implementation to ensure that the Expo venue facilitates all visitors, regardless of their background such as nationality, culture, race, gender, generation, disability, etc., to be able to circulate along the same routes, enjoy themselves without having anxieties or inconveniences, appreciate various exhibitions and events, and, in an emergency event such as a fire, safely evacuate from the venue with a help of accurate and timely information.

1-2. Basic approach to universal design at the Expo

1) Aspiring to an accessible and inclusive society, leaving no one behind

The Expo 2025 Osaka, Kansai, Japan shall aspire to design a "Future Society for Our Lives" as stated in the Expo theme and pursue the implementation and operation of the universal design to realise an "accessible and inclusive exposition."

To achieve this, it adopts the basic principles of accessibility and inclusion, aiming for building "an inclusive society that leaves no one behind",[*1] in which all people, regardless of the nationality, culture, race, gender, generation, and disability, respect each other's human rights and dignity, support one another, and enjoy meaningful lives, removing boundaries attributed to individual circumstances and conditions, such as disabilities.

2) Aiming to create higher standards for universal design reflective of an accessible and inclusive exposition

The Expo 2025 Osaka, Kansai, Japan will be attracting many people and materials from across the world, offering a forum of worldwide knowledge to address various global issues. In order to make the venue embody an accessible and inclusive exposition inspired by one of the UN sustainable development goals (SDGs), "Leave no one behind," the Universal Design 2020 Action Plan (adopted in 2017), Tokyo 2020 Accessibility Guidelines, and other initiatives hitherto pursued are positively considered, reviewed in view of the Expo, and further developed in the UD Guidelines.[*2]

3) Basic principles of accessibility and inclusion behind the UD Guidelines

The basic principles behind the UD Guidelines are equity, dignity, and functionality, that form the principles of the IPC's Accessibility Guide.

Equity

We will ensure that all people can enjoy the same standards of services regardless of their individual physical and functional states.

All visitors will be able to share the same levels of experiences, enjoy the same levels of privacy, and be provided with the same levels of safety and security through the arrangements of appropriate design and operation plans for the Expo venue and trained staff/volunteers, etc.

Dignity

We will respect all people who use the Expo facilities and services, ensuring that the Expo operation will not compromise their dignity as individuals.

The plans concerning the design of the venue and operation of the Expo will be developed to offer diverse options so that visitors can choose one that suits their capacities and conditions.

Functionality

The facilities and services offered on the Expo site will ensure to meet the needs of all stakeholders, including people with disabilities.

4) Inclusion of people with disabilities in the evaluation and integration of their viewpoints: active promotion of universal design workshops

"Nothing about us, Without us!" is a widely recognised slogan of the Convention on the Rights of Persons with Disabilities. An effective way to develop facilities that offer benefits to people affected by disabilities or other forms of social barriers is to pursue facility implementation through the evaluation by people with disabilities and integration of their viewpoints, for example by holding universal design workshops with participation of diverse people with disabilities. It is positively recommended that the "accessible and inclusive exposition" takes an approach of accessibility and inclusiveness right from the preparatory phases to ensure the participation of diverse people with disabilities and integrate their viewpoints.

*1: It is based on the following points:
- with reference to the principles underlying the Convention on the Rights of Persons with Disabilities, it is recognised that all people regardless of disabilities must be able to enjoy fundamental human rights and are acknowledged as social participants, in order to realise an inclusive society;
- it is mandatory that all people never discriminate people with disabilities (including unjustifiable discriminatory treatment and lack of reasonable considerations); and
- "disabilities" are created through an interaction between physical/psychological impairments and social barriers, and it is encouraged to pursue initiatives based on the social model of disability, which holds society to be responsible for removing social barriers.

*2: Relevant models
- "Access is a basic human right," IPC Accessibility Guide (2013)
- Aspiring to an inclusive society, the Convention on the Rights of Persons with Disabilities (adopted in 2006, approved by the Government of Japan in 2014)
- Realisation of "Society that leaves no one behind," the sustainable development goals (SDGs) (adopted by the 2015 UN summit in September 2015)

1-3. Structure of the UD Guidelines

The UD Guidelines comprise the following five chapters:

- 1. Introduction
  The purpose of the guidelines, the implementation policies of the universal design at the Expo, and the laws and regulations to be complied with are described.
- 2. Approaches of the UD Guidelines
  The scope of applicability, approaches to the standards, standard dimensions, etc. pertaining to the guidelines are stated.
-3: Items and descriptions
  Details of each guideline are described, concerning the planning conditions etc. for the universal design to be adopted in the implementation of pavilions and other facilities on the Expo site.
- 4: Management and procedures of the UD Guidelines
  The management and procedures concerning the UD Guidelines are explained for Participants.
- 5: References/relevant literature
  Reference materials and other relevant literature to the UD Guidelines are listed.

1-4. Compliance with laws and regulations

In pursuing the planning, designing, and construction of pavilions and other facilities on the Expo site, relevant Japanese laws, prefectural and municipal ordinances of Osaka, and other regulations shall be complied with. Furthermore, informative latest examples of guidelines from Japan and the world, such as the following, shall be consulted:

■Relevant laws and regulations

1) Building Standards Act and Order for Enforcement of the Act
(Building Standards Act) https://elaws.e-gov.go.jp/document?lawid=325AC0000000201
(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=325CO0000000338

2) Basic Act for Persons with Disabilities
(e-Gov Law Search Engine) https://elaws.e-gov.go.jp/document?lawid=345AC1000000084

3) Act for Eliminating Discrimination against Persons with Disabilities
(e-Gov Law Search Engine) https://elaws.e-gov.go.jp/document?lawid=425AC0000000065

4) Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc. (Accessibility Improvement Act) and Order for Enforcement of the Act
(Accessibility Improvement Act) https://elaws.e-gov.go.jp/document?lawid=418AC0000000091
(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=418CO0000000379

5) Osaka Prefectural Ordinance on Welfare Communities and Enforcement Rules/Guidelines
(Osaka Prefectural Government official website) http://www.pref.osaka.lg.jp/kenshi_kikaku/fukushi_top/jigyosya-muke.html

6) Osaka Municipal Government Guidelines for Accessible Urban Planning and Enforcement standards for the Guidelines
(Osaka City official website) https://www.city.osaka.lg.jp/toshikeikaku/page/0000481667.html

■Reference standards

1) *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities* (March 2021)
(Ministry of Land, Infrastructure, Transport and Tourism official website) https://www.mlit.go.jp/jutakukentiku/jutakukentiku_house_fr_000049.html

2) IPC Accessibility Guide
(Japan Paralympic Committee official website) https://www.parasports.or.jp/paralympic/what/data.html

3) Tokyo 2020 Accessibility Guidelines
(Tokyo 2020 official website) https://www.tokyo2020.jp/ja/organising-committee/accessibility/index.html

Other guidelines, including this UD Guidelines, and documents designated by the Organiser, as well as other standards relevant to specific plans, must also be consulted and complied with.

2. Approaches of the UD Guidelines

2-1. Scope of applicability of the UD Guidelines

The UD Guidelines shall be applicable to the facilities (pavilions etc.) implemented by participating countries, international organisations, and corporate entities. Facilities on the Expo site shall be distinguished by the areas used by visitors and those used for the management and servicing purposes. The UD Guidelines shall only relate to the areas used by visitors, while the areas used for the management purposes, which are out of bounds for visitors, shall be arranged separately by participating countries etc. as necessary.

2-2. Visitor needs that require special attention

To create a site with considered universal design, it is important to plan/design based on precise understanding of the attributes of visitors, as well as various laws, regulations, and guidelines, to ascertain that a diversity of needs will be catered for. Some of the attributes are as follows:

Persons with difficulties in mobility

People are more likely to have difficulties in walking as they age, becoming partially or totally unable to walk and in permanent or frequent need to use a wheelchair. Architectural structures and equipment that neglect the needs of wheelchair users may pose a considerable barrier. By contrast, providing sufficiently wide passageways, entrances/exits, toilets, lifts, seating areas, etc. will create an environment that is considerate not only of wheelchair users but also people accompanied by guiding helpers, pregnant people, people accompanying babies or infants, and other individuals who require spaces for more than one person.

Considerations are also required for those who need to use canes or other devices to assist with walking and have difficulties in walking long distances, persons with invisible, psychological, or developmental impairment, pregnant people, and people accompanying babies/infants, by ensuring shortest possible routes or providing equipment for resting in order to avoid standing up for an extended period, separate spaces for peaceful moments (to calm down or cool down), etc.

Also required is the consideration for assistance animals accompanying persons who need them.

Persons with difficulties in manipulation and other manual tasks

Considerations are required in the arrangements of door handles and buttons to operate lifts, toilet facilities, ticket machines, etc. for those who have physical impairments in their upper limbs and whose physical abilities, such as muscular strengths, are limited.

Persons with difficulties in obtaining visual information

People with visual impairment (completely blind, with severely impaired visual acuity (low vision), etc.) need support through indications in braille, auditory data, tactile maps, high-contrast signage, enlarged prints and other alternative forms of printed information, use of low-reflective materials, etc.

Considerations are also required for guiding animals accompanying persons who need their assistance.

Persons with difficulties in obtaining auditory information

People with auditory impairment need support through writing pads, transcription services, communication boards, etc. They may also need captioning in order to meaningfully enjoy exhibitions, stage performances, and theatre programs.

Not a few people with hearing impairment can benefit from hearing assistance equipment such as a hearing loop system, and this must be given appropriate considerations.

Considerations are also required for hearing animals accompanying persons who need their assistance.

Sign language users

Sign language speakers (or interpreters) are required to communicate with persons whose main means of communication is sign language.

Persons with special needs in communication and comprehension

People with cognitive impairment, psychological difficulties, developmental disabilities, etc. need support through clear and slow oral communication, succinct texts, illustrations/pictograms easy to understand, etc.

These modes of support are also required by persons who have difficulties in expressing themselves, learning new things, comprehending the surroundings, keeping time and space orientation, etc. due to certain reasons (illness, accident, etc.) or personal attributes.

Furthermore, the Expo staff and volunteers need to understand diverse situations in which communication is potentially restrained and undergo training to competently provide services in such situations.

A special attention is required to cater to the needs of persons with invisible impairment (cognitive, psychological, or developmental impairment, people in early stages of pregnancy, etc.) and of those who are unable, for a variety of reasons, to autonomously identify staff members and seek assistance from them.

Persons with diverse needs who would benefit from considered arrangements

An accessible and inclusive environment is also helpful for individuals who have the following needs:

- Persons suffering from an intractable or temporary disease: people using an electric wheelchair or carrying a chargeable oxygen cylinder find it easier to have electric sockets installed on auditorium seats, in rest areas, etc. Ostomy bag users find it helpful if toilets have special purpose equipment (a sink of appropriate size, form, and height designed for emptying the pouches, and a faucet designed for cleaning them). Also, individual toilet spaces with considerate equipment (such as a shelf, hooks, etc.) or hygienic spaces provided outside the toilet facilities can be useful for persons who need periodical self-injections.
- Persons with injuries, such as sprained ankles, fractured bones, etc.
- Elderly people
- People living with dementia
- People in pregnancy or accompanying babies/infants
- Children
- Non-Japanese speakers
- LGBTQ people: individuals who identify themselves with a sexually minority group, such as lesbian (homosexual women), gay (homosexual men), bisexual, trans-gender (whose gender identity differs from the sex that they were assigned at birth), questioning (individuals who are unsure or indeterminate of their sexual orientation, identity, or gender), etc.
- People carrying large and heavy luggage
- Persons requiring a company of carers/service animals etc. for certain reasons
- First aid workers and other personnel on emergency call
- People who have never before been to the Expo site, pavilions, etc.
- People who do not possess a smartphone or other mobile devices

2-3. Approach to standards

The UD Guidelines provide guides to the design of pavilions and other on-site facilities in two categories of standards, Guide and Control.

It is not sufficient only to satisfy the minimum necessary standards in order to address a multitude of barriers that confront people with disabilities and others who require an accessible environment. For integrating needs of communities and implementing an "accessible and inclusive exposition," it is desired that each stakeholder involved in the planning, designing, and constructing facilities proactively adopts the Guide category standards in these UD Guidelines. Where the adoption of Guide standards is realistically impossible, the Control standards must at least be met.

Note that, in Chapter 3 Items and descriptions, these guideline categories are indicated in codes comprising an alphabet and number, as shown below:

G0-00 Guide indicates a "desirable" item and is defined as a standard that desirably be met in order to realise safer and smoother mobility for visitors as well as enhance convenience and provide comfort in the use of the facility.

[Basis of these standards]

These standards are formulated based on comprehensive consideration of the *Recommended standards in the Tokyo 2020 Accessibility Guidelines*, the standards stated in the *Desirable facility development according to Prefectural Ordinances of Osaka etc.*, the design standards (preferred) stated in the *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities (March 2021),* and opinions of participating people with disabilities.

C0-00 Control indicates an item that should or must be ensured and is defined as a standard that should be complied with regardless of legal obligations.

[Basis of these standards]

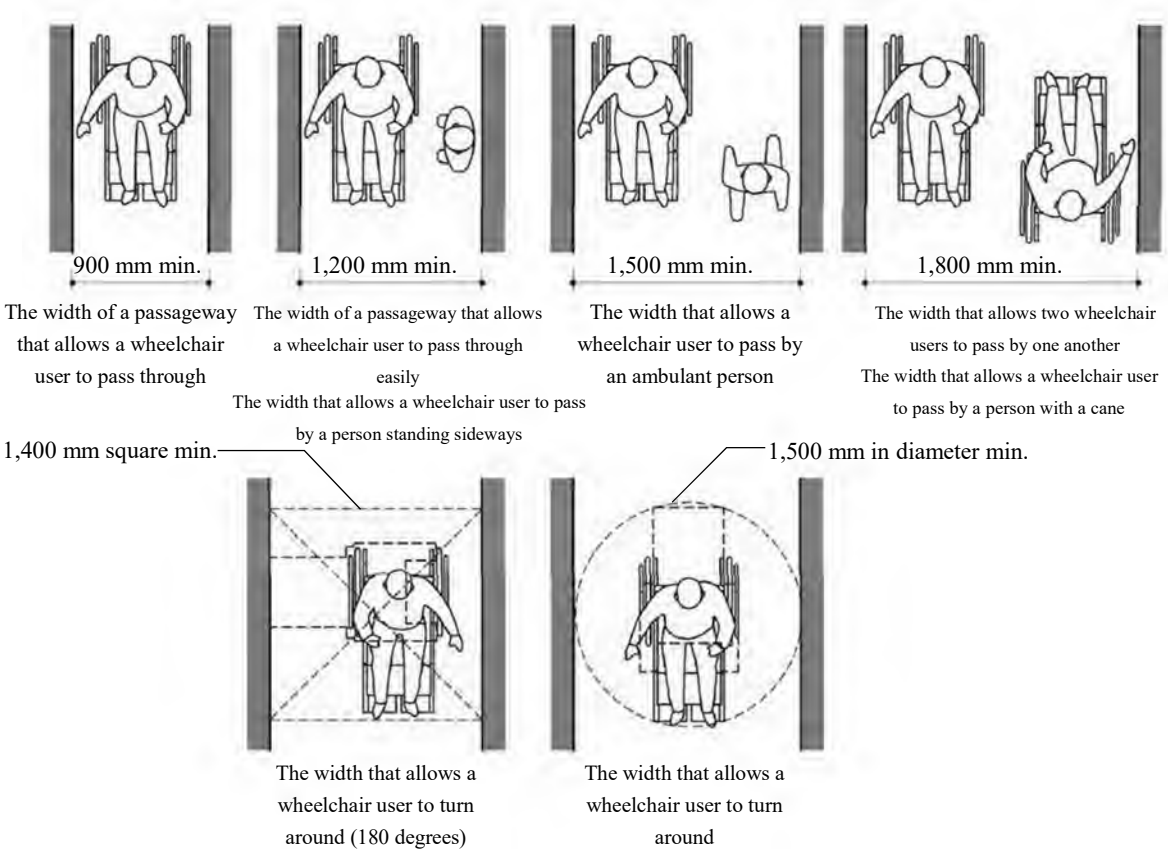
These standards are formulated based on the highest possible standards observed in the *General standards in the Tokyo 2020 Accessibility Guidelines*, *Standards recommended by the national government*, and *Facility development standards (preferred implementation) by Prefectural Ordinances of Osaka that are more strict than the National Government's mandatory standards*, in addition to legally enforced standards.

2-4. Basic dimensions, etc.

The basic dimensions used in the UD Guidelines are explained as follows:

Table 2.4.1 Major dimensions and definitions

Dimensions	Definition
800 mm	The width that allows a wheelchair to pass through
900 mm	The width that allows a wheelchair to pass through easily The width of a passageway that allows a wheelchair to pass through
1,200 mm	The width of a passageway that allows a wheelchair to pass through easily The width that allows a wheelchair user to pass by a person standing sideways The width that allows a person with a cane can pass smoothly
1,400 mm	The width that allows a wheelchair user to turn around (180 degrees) The width of a stairway that allows a person with a cane to travel smoothly
1,500 mm	The width that allows a wheelchair user to turn around The width that allows a wheelchair user to pass by an ambulant person
1,800 mm	The width that allows a wheelchair user to turn around easily The width that allows two wheelchair users to pass by one another



Source: *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities* (March 2021), the Ministry of Land, Infrastructure, Transport and Tourism

Figure 2.4.1 Dimensions adapted to wheelchair passage

1) Senior visitors

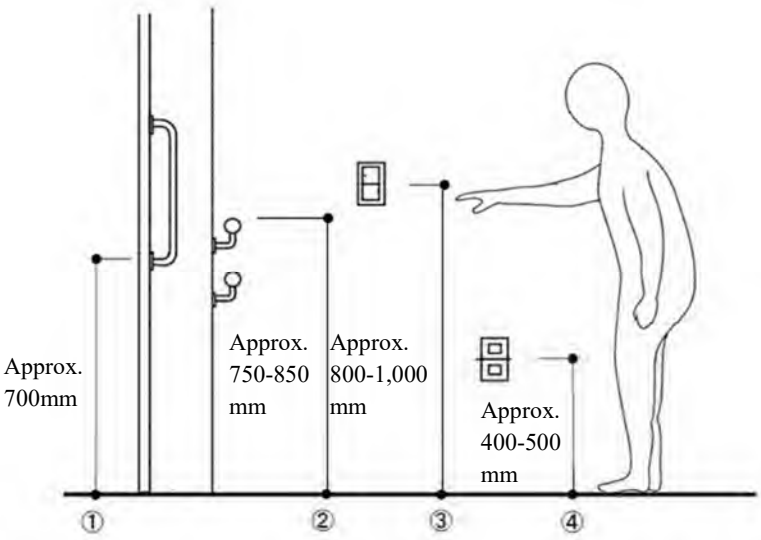


Figure 2.4.2 Accessible heights for elderly people

2) Persons with difficulties in mobility

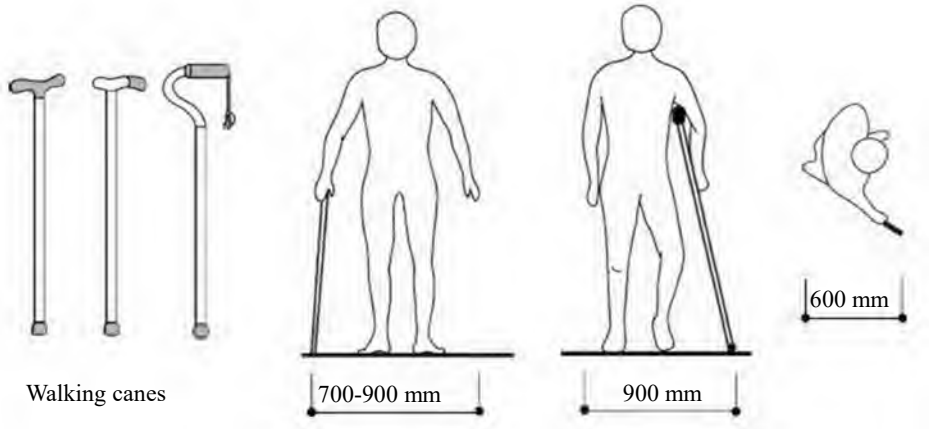


Figure 2.4.3 Spatial measurements required for a person with a cane

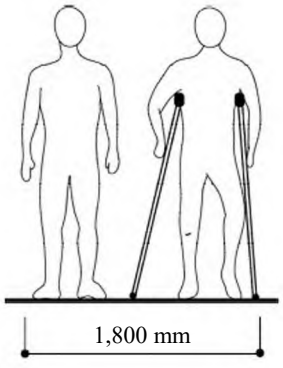


Figure 2.4.4 Spatial measurements required for an ambulant person and a person with crutches side by side

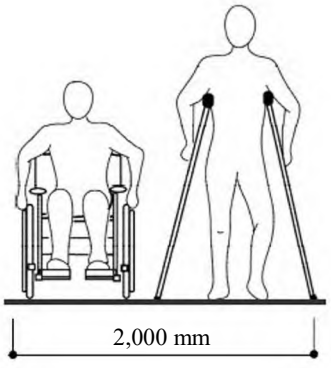


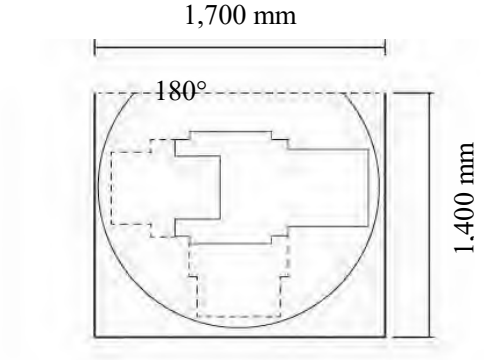
Figure 2.4.5 Spatial measurements required for a person with crutches and a wheelchair user side by side

Source: *Ordinance on Welfare Urban Planning: A Guide to Facility Implementation and Management (public facilities)* (April 2019), Prefectural Government of Hyogo

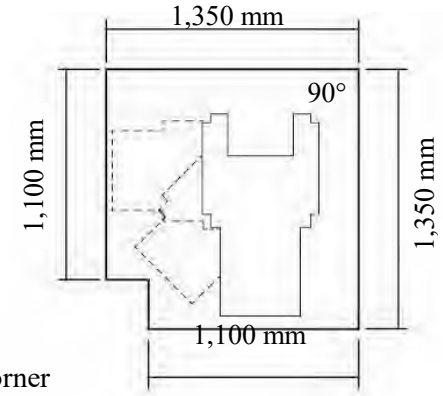
3) Wheelchair users

① Minimum space required to manoeuvre a hand-operated wheelchair

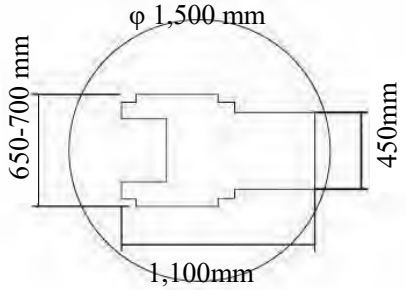
■180-degree turn (pivoted on the centre of wheel)



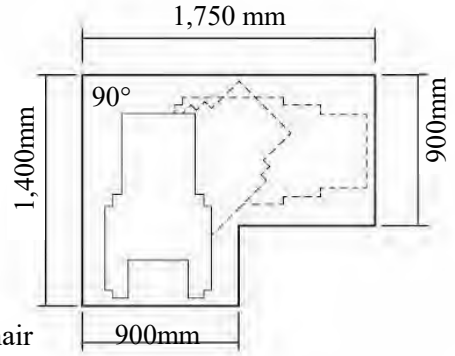
■90-degree turn (pivoted on the centre of wheelchair axle)



■Minimum dimension for rotation

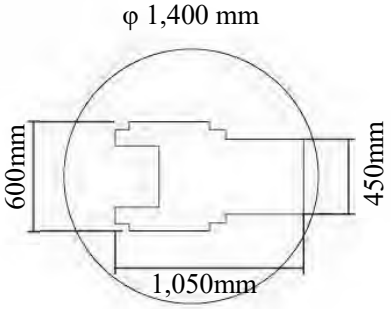


■Right-angle corner

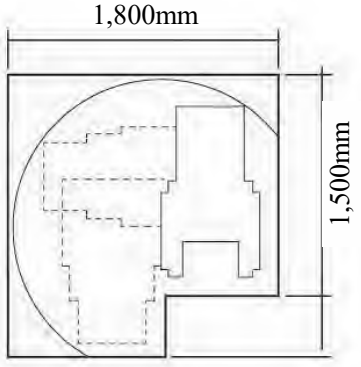


② Minimum space required to manoeuvre an electric wheelchair

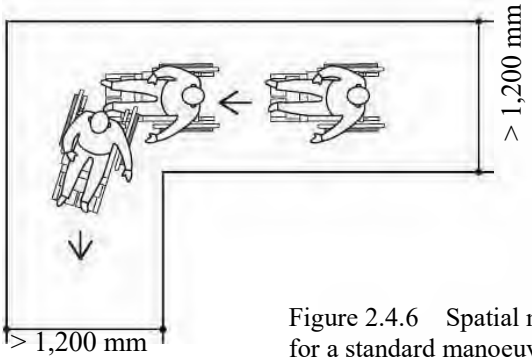
■360-degree turn (pivoted on the centre of wheel)



■180-degree turn (pivoted on the centre of wheelchair axle)



■Right-angle corner (outdoor passageway)



■U-turn

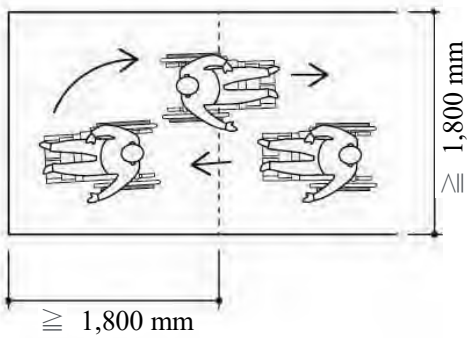


Figure 2.4.6 Spatial measurements required for a standard manoeuvring of a wheelchair

Source: *A Guide for Handicap-aware Designs—Architectural Design Planning Pamphlet No. 26* by the Architectural Institute of Japan (1984), published by Shokokusha Publishing

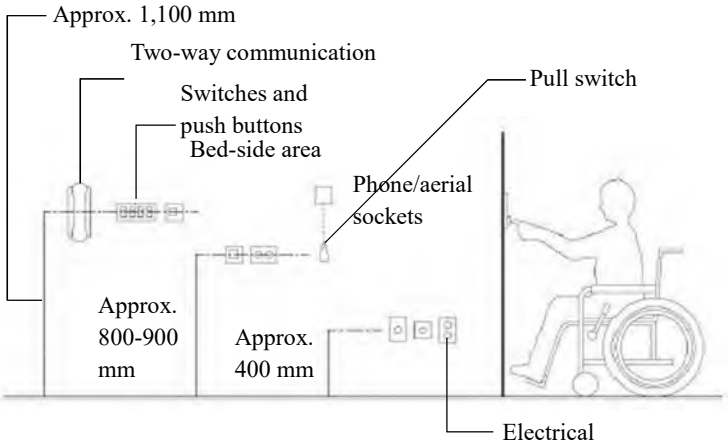


Figure 2.4.7 Spatial measurements for the wheelchair-accessible arrangements of wall sockets, switches, etc.

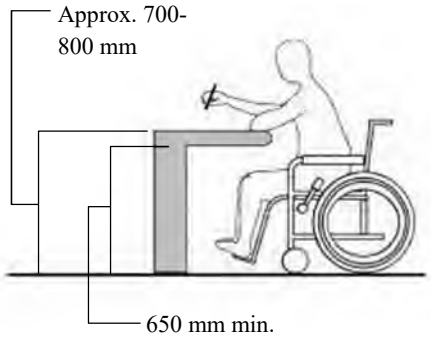


Figure 2.4.8 Dimensions of wheelchair-accessible tables etc.

Source: *Ordinance on Welfare Urban Planning: A Guide to Facility Implementation and Management (public facilities)* (April 2019), Prefectural Government of Hyogo

4) Persons with visual impairment

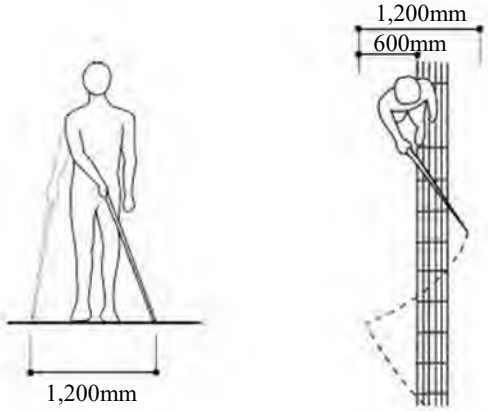


Figure 2.4.9 Spatial measurements required for a white cane user and illustration of manoeuvring

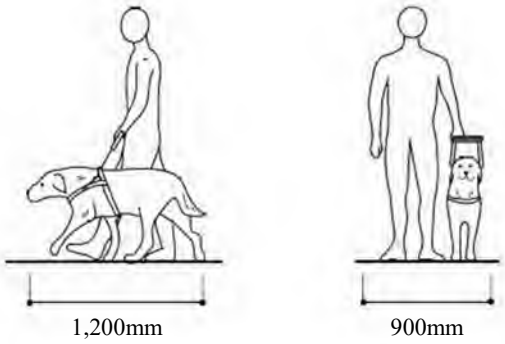


Figure 2.4.10 Spaces required for persons with a guide dog

5) Persons accompanying babies/infants

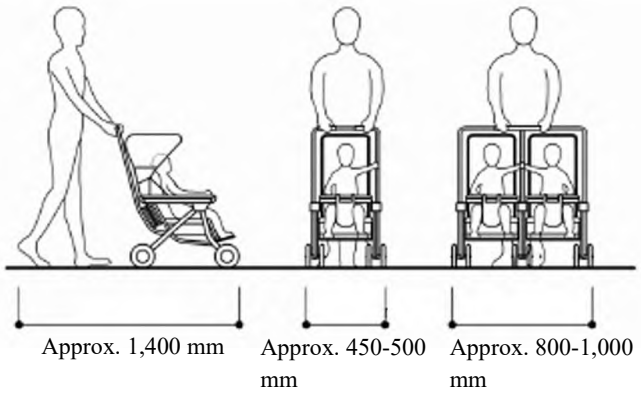


Figure 2.4.11 Spatial measurements required for persons with prams

6) Children

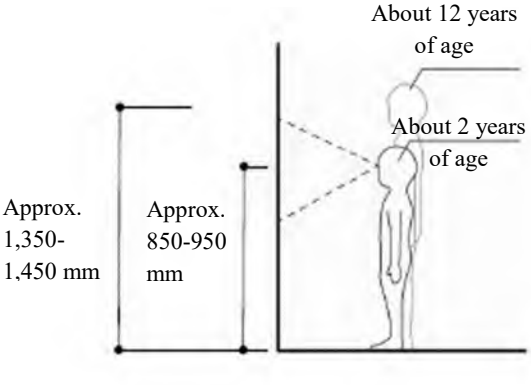


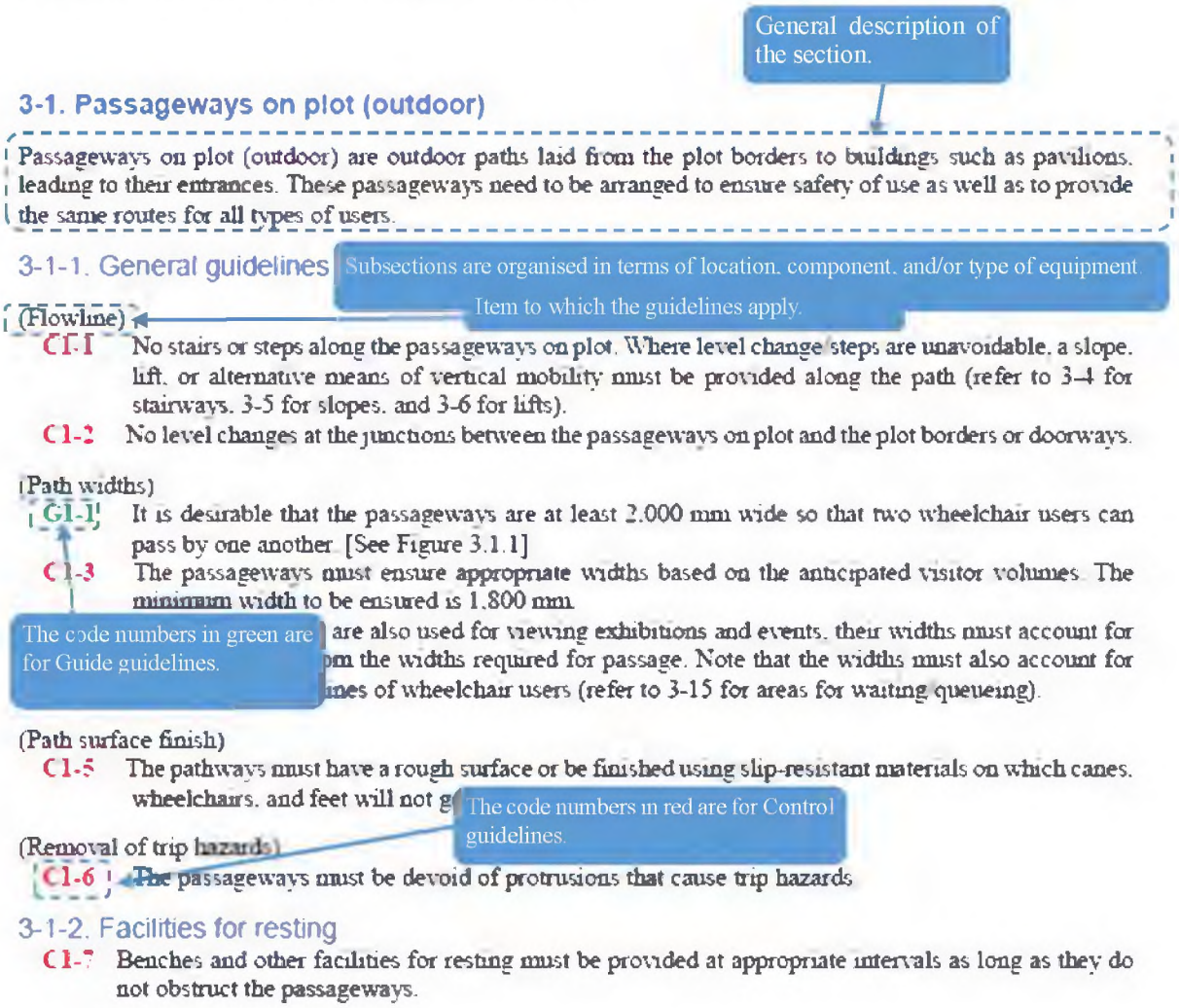
Figure 2.4.12 Eye levels of infants and children

Source: *Ordinance on Welfare Urban Planning: A Guide to Facility Implementation and Management (public facilities)* (April 2019), Prefectural Government of Hyogo

3. Items and descriptions

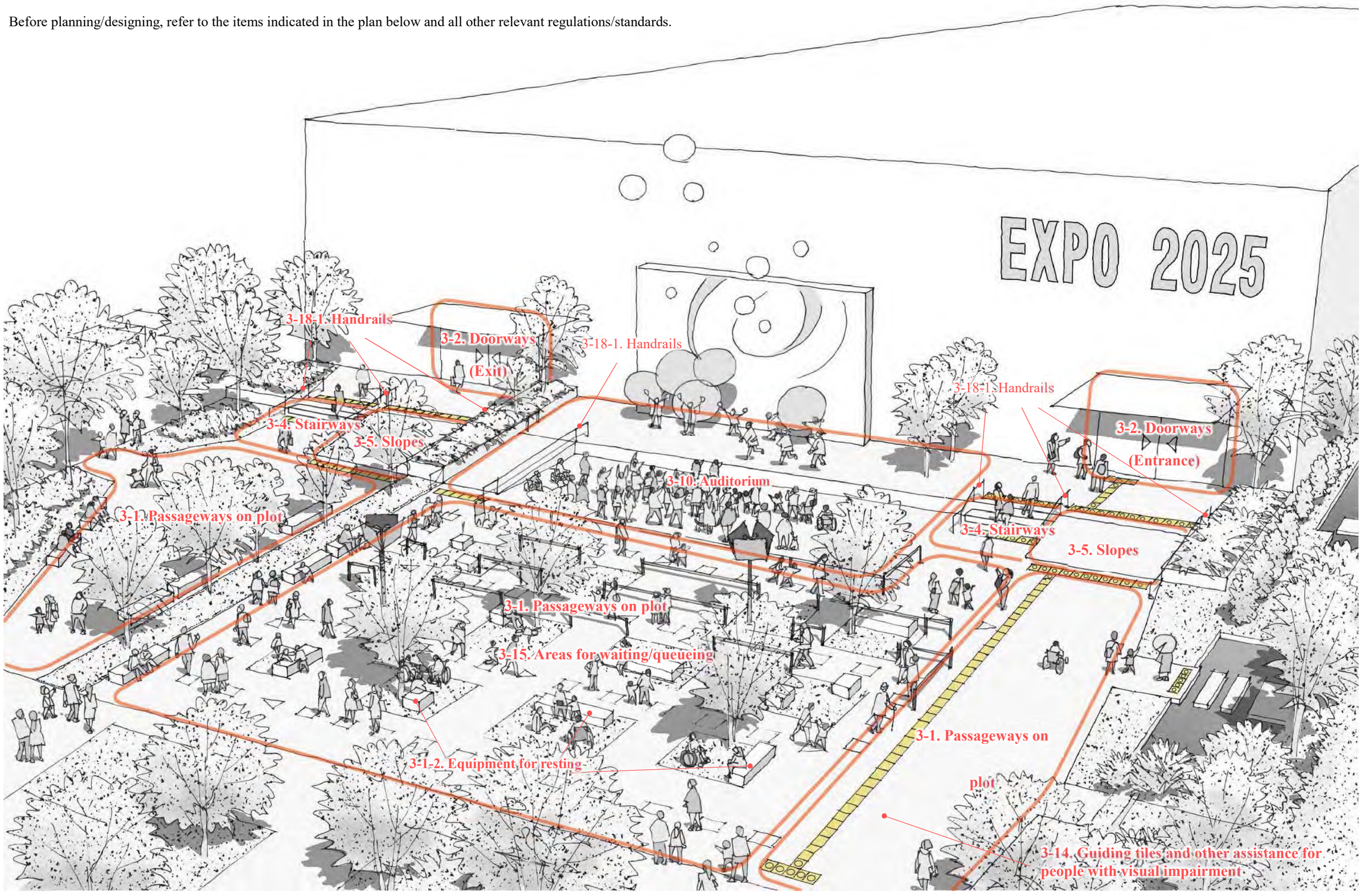
This chapter describes the specifics of each guideline for the universal design to be adopted in designing pavilions and other on-site facilities, using the Guide and Control codes.

The organisation of Chapter 3 pages is illustrated below.



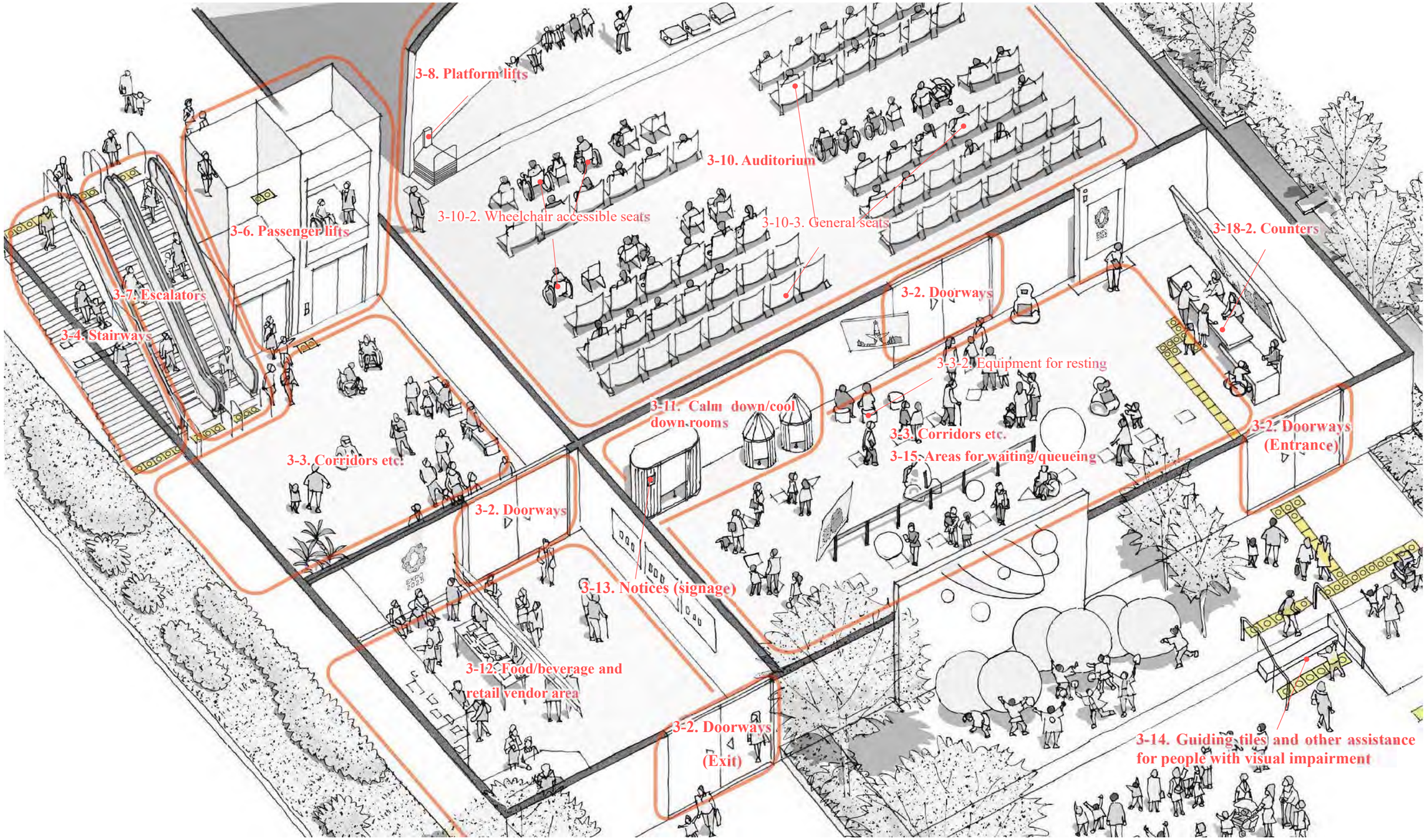
Pavilion exterior space concept plan

Before planning/designing, refer to the items indicated in the plan below and all other relevant regulations/standards.



Pavilion interior space concept plan

Before planning/designing, refer to the items indicated in the plan below and all other relevant regulations/standards.



3-1. Passageways on plot (outdoor)

Passageways on plot (outdoor) are outdoor paths laid from the plot borders to buildings such as pavilions, leading to their entrances. These passageways need to be arranged to ensure safety of use as well as to provide the same routes for all types of users.

3-1-1. General guidelines

(Flowline)

C1-1 No stairs or steps along the passageways on plot. Where level change/steps are unavoidable, a slope, lift, or alternative means of vertical mobility must be provided along the path (refer to 3-4 for stairways, 3-5 for slopes, and 3-6 for lifts).

C1-2 No level changes at the junctions between the passageways on plot and the plot borders or doorways.

(Path widths)

G1-1 It is desirable that the passageways are at least 2,000 mm wide so that two wheelchair users can pass by one another. [See Figure 3.1.1]

C1-3 The passageways must ensure appropriate widths based on the anticipated visitor volumes. The minimum width to be ensured is 1,800 mm.

C1-4 If the passageways are also used for viewing exhibitions and events, their widths must account for these uses apart from the widths required for passage. Note that the widths must also account for securing the sight lines of wheelchair users (refer to 3-15 for areas for waiting/queueing).

(Path surface finish)

C1-5 The pathways must have a rough surface or be finished using slip-resistant materials on which canes, wheelchairs, and feet will not get easily caught on.

(Removal of trip hazards)

C1-6 The passageways must be devoid of protrusions that cause trip hazards.

3-1-2. Equipment for resting

C1-7 Benches and other equipment for resting must be provided at appropriate intervals as long as they do not obstruct the passageways.

3-1-3. Lighting equipment

C1-8 Lighting equipment must be installed to ensure safe passage during dark hours.

C1-9 In order to enhance the visibility of the path surfaces, the passageways must be installed with lighting equipment below the eye level, in addition to standard lighting.

C1-10 Arrangements must be made so that light sources are hidden from the eyes.

3-1-4. Guiding tiles and other assistance for people with visual impairment

Refer to 3-14. Guiding tiles and other assistance for people with visual impairment for the general guidelines concerning these facilities.

G1-2 Where the installation of guiding tiles is impossible as, for example, the passageway between the plot border and the building doorway being too short, it is desirable that other means of guiding assistance are provided, such as voice information guide and personal escort by employees etc.

3-1-5. Other

(Cross slope)

C1-11 The passageways must be flat and horizontal, except where drainage gradient is required.

G1-3 Where drainage gradient is required, it is desirable that permeable paving materials are used to ensure smooth drainage, and the cross slope is 1% maximum.

C1-12 Where drainage gradient is required, the cross slope must not exceed 2%.

(Drainage)

C1-13 Drains traversing a passageway must have covers that do not catch canes, crutches, or wheelchair wheels.

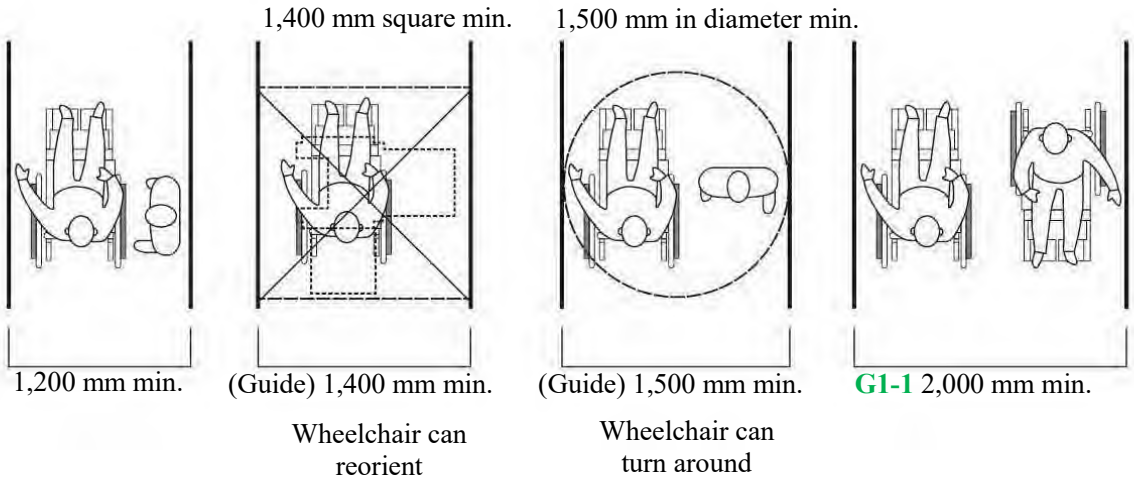


Figure 3.1.1 Effective widths of passageways on plot (outdoor)

3-2. Doorways

Doorways are entrances and exits of buildings and rooms. The doorways need to ensure safe and comfortable passage into/out of buildings and rooms by all types of users. They must be free of steps and other level differences and installed with sliding or automatic doors etc. for easy door operation to ensure accessibility to wheelchair users etc. Furthermore, the doorways must also be equipped with areas on both sides where a wheelchair can be stationed.

3-2-1. General guidelines

(Ensuring flat and horizontal surfaces)

C2-1 The floors of the doorways into/out of buildings and on major routes must be flat and horizontal, free of stairs and steps (except where a slope, lift, or other means of vertical mobility is provided).

C2-2 No level differences on both sides of the doors.

(Floor finish)

G2-1 It is desirable that floors are finished using shock-absorbing materials in case of fall accidents.

G2-2 It is desirable not to use thick carpets as these pose a considerable burden on driving wheelchairs.

C2-3 The floor must have a rough surface and be finished using slip-resistant materials.

(Installation of eaves)

C2-4 A shade or eave of a sufficient size must be installed over an exterior doorway in order to create a shelter from the sun and rain.

3-2-2. Doors

(Effective widths) [See Figures 3.2.1 and 3.2.2]

G2-3 It is desirable to have at least 950 mm of effective width for doorways.

C2-5 The doorways must have at least 850 mm of effective width. Considerations are required to account for the door panel thickness, the door width that does not clear the doorway opening, etc. in order to ensure an appropriate effective width.

G2-4 It is desirable to have at least 2,000 mm of effective width for main doorways.

C2-6 The main doorways must have at least 1,000 mm of effective width.

(Styles) [See Figure 3.2.2]

G2-5 It is desirable that automatic doors are installed at main doorways.

G2-6 It is desirable that sliding doors are installed at the doorways on a corridor.

G2-7 It is desirable that the doors can be held and operated with little force (30 N max.)

C2-7 The doors must have structures that allow wheelchair users to operate and pass through easily.

C2-8 Revolving doors are not acceptable.

C2-9 Hand-operated sliding doors must be easy to open and close.

(Door handles)

C2-10 Door handles must be of either a lever, push, or panic-bar type that is large and easy to operate. [See Figure 3.2.3]

C2-11 The door handles must be installed at approximately 900 mm above the floor level.

(Room name plates/signs)

C2-12 Room names etc. must be indicated on the door or the wall on the door handle side, in embossed lettering and with a label in braille as necessary.

(Effective distance between doors in series)

C2-13 The effective distance between two doors in series should be the widths of both doors plus 1,500 mm.

(Materials)

G2-8 It is desirable that the doors of frequent use are equipped with kick plates or the materials that serve the same purpose, up to 250 mm above the floor level.

C2-14 Use of glass must be avoided within the area touched by wheelchair footrests (up to approx. 350 mm above the floor level).

(Glass pane doors and windows on doors)

G2-9 Where glass panes are installed in doors or the walls adjacent to the door, it is desirable that these are marked by some means, such as horizontal muntin or warning stickers, to avoid collision.

C2-15 The doors must have a glass pane (of laminated or tempered glass) fitted in to reduce the risk of collision, at the height or in the position that allows to visually identify the existence of children or wheelchair users on the other side. However, this guideline does not apply where privacy is concerned or such an arrangement may spoil the appreciation of the exhibition.

(Door closer performance)

C2-16 For the considerations of elderly people, wheelchair users, etc., door closers must be fitted and adjusted to ensure that the door closes slowly.

C2-17 Where door closers with a delayed action feature are used, it is desirable to ensure sufficient time for opening/closing of the door for safety.

(Safety measures)

C2-18 Doors must be clearly identifiable to reduce the collision risks.

(Securing door-side walls)

C2-19 Where a recessed door is installed, it is desirable that the doorway opening is offset at least 450 mm from the side wall on the door-handle side.

3-2-3. Automatic doors

(Styles)

G2-10 It is desirable that the automatic door is either of a single or double panel sliding type.

(Structures)

C2-20 The operating system must be sensor-operated or other system without push buttons, to remove the necessity of manual operation.

C2-21 The automatic doors must remain open for a sufficient period of time.

C2-22 Safety systems (such as photoelectric beam sensors) must be installed on both sides of the door frame at an appropriate height to avoid door strike injury risks.

(Emergency safety measures)

C2-23 The doors must be able to be manually operated in an emergency. Alternatively, an additional manually operated door must be installed.

3-2-4. Lighting equipment

C2-24 Lighting equipment must be installed to ensure sufficient and even luminance for safe passage.

C2-25 In order to enhance the visibility of the floor surfaces, the doorways must be installed with lighting equipment below the eye level, in addition to standard lighting.

3-2-5. Guiding tiles and other assistance for people with visual impairment

Refer to 3-14. Guiding tiles and other assistance for people with visual impairment for the general guidelines concerning these facilities.

C2-26 A few guiding tiles must be installed in front of the doorways and entrance mats of buildings, information counters, and other information equipment such as guides in braille, voice, etc. so that people with visual impairment can easily recognise these features.

G2-11 It is desirable that entrance enclosures do not necessitate people's reorientation through the passage.

3-2-6. Approach to the facilities

C2-27 The doorways must have flat and horizontal areas of at least 1,400 mm square on both sides to allow wheelchair users to move straight or reorient.

3-2-7. Space for assistance dogs (and other service animals)

As a general rule, all areas for visitor use must be accessible to persons accompanied by assistance dogs or other service animals. Where it is practically difficult for the animals to accompany due to the nature of the exhibition, event, attraction, etc. in the facilities, a dedicated space for them to stay must be provided, and the persons must be given appropriate support such as human attendants to accompany them.

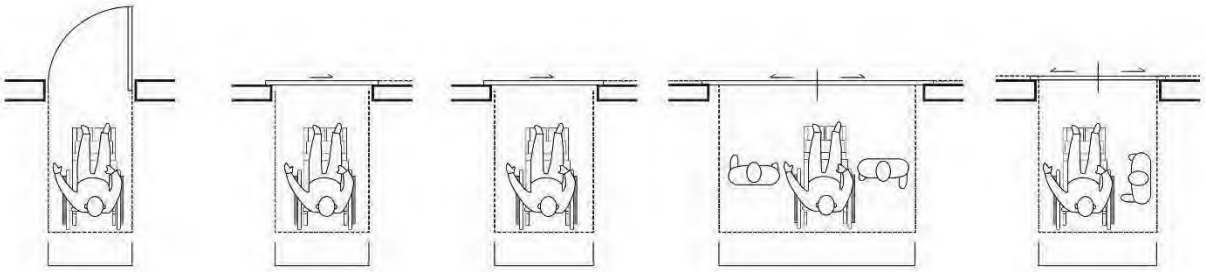
(Size)

G2-12 It is desirable that the spaces have a floor size of at least 3,000 mm x 4,000 mm and are enclosed with a fence of approximately 1,200 mm high.

(Equipment)

G2-13 It is desirable that a litter bin and plastic bag dispenser are provided in these dedicated spaces for assistance animals.

G2-14 It is desirable to provide toilet facilities for assistance animals.



C2-5
850 mm min.

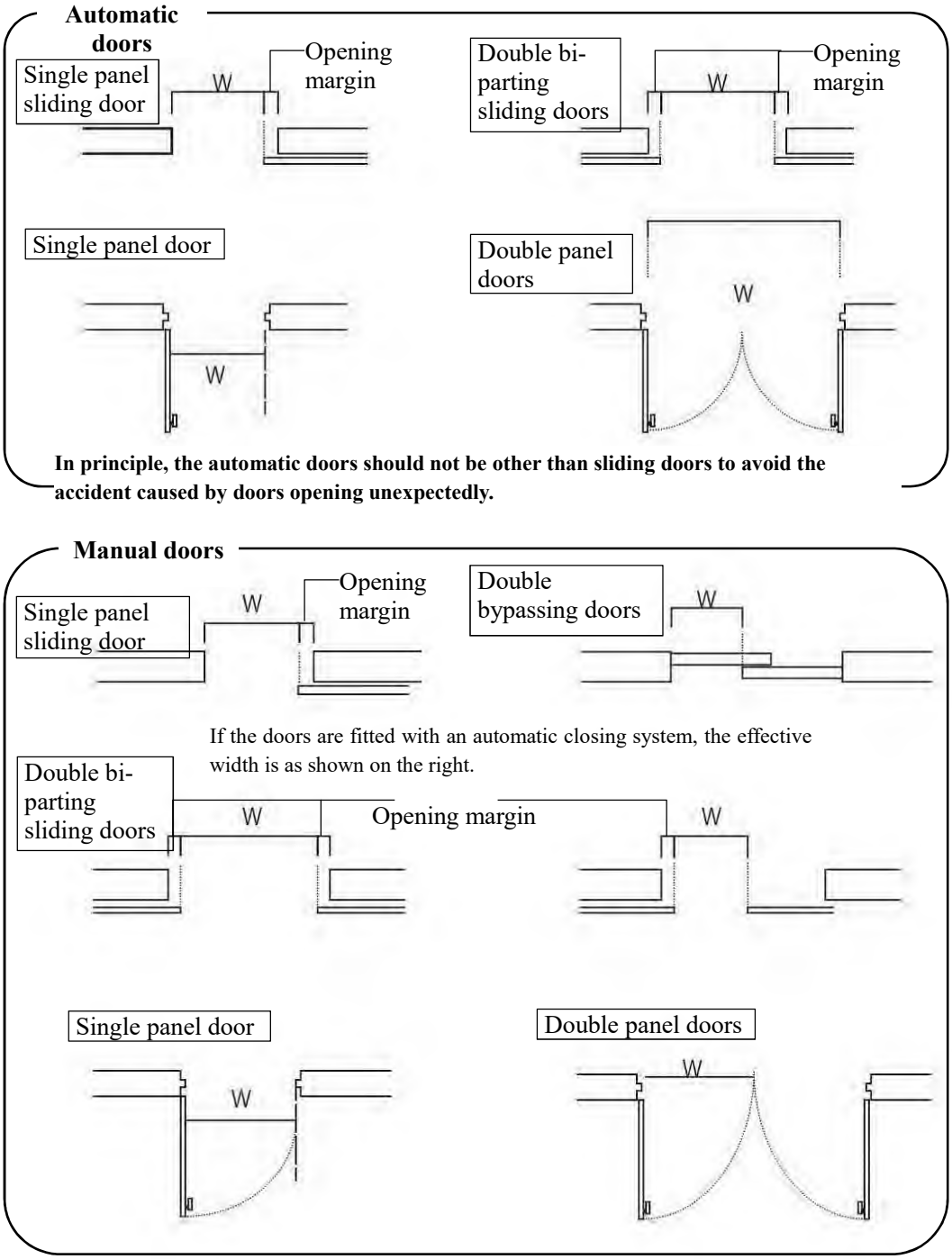
G2-3
950 mm min.

C2-6
1,000 mm min.
(Main doorways)

G2-4
2,000 mm min.
(Main doorways)

(Guide) 1,200 mm min.
The width that allows a wheelchair user to pass

Figure 3.2.1 Effective widths of doorways



*The widths refer to effective width, which is measured excluding the door panel thickness or the door width the does not clear the doorway opening.

Figure 3.2.2 Ensuring appropriate widths

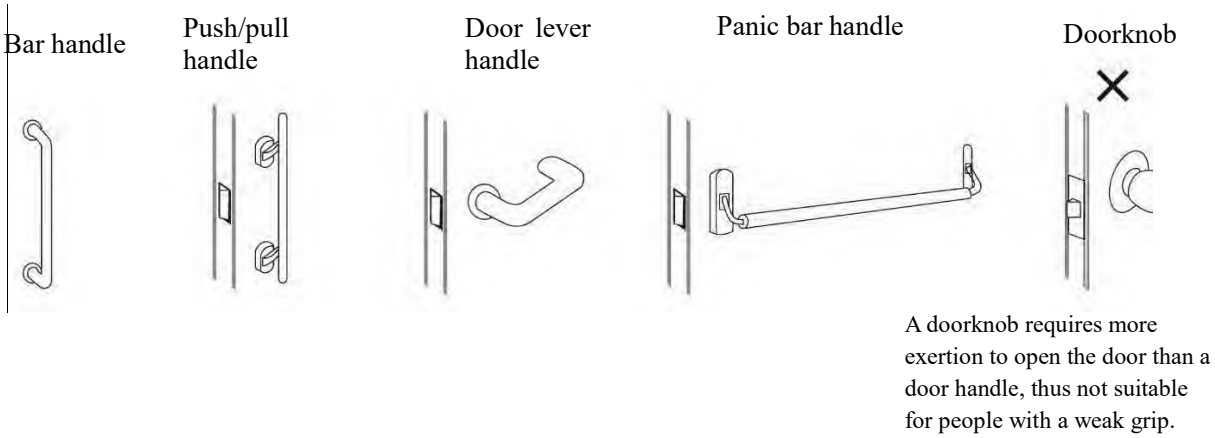


Figure 3.2.3 Easy-to-use handles

3-3. Corridors etc. (indoor)

Corridors etc. are passages provided within the facilities (indoor). The corridors etc. must have sufficient widths based on the anticipated visitor volumes and be organised to facilitate easy orientation and navigation, with considerations for emergency evacuation. They must be designed to ensure safe and smooth passage for everyone, and protrusions on the walls must be avoided if possible as these may obstruct the passage.

3-3-1. General guidelines

(Path widths)

G3-1 It is desirable that the corridors etc. are at least 2,000 mm wide so that two wheelchair users can pass by one another.

C3-1 The corridors etc. must ensure appropriate widths based on the anticipated visitor volumes. The minimum width is 1,800 mm.

C3-2 If the corridors etc. are also used for viewing exhibitions and events, their widths must account for these uses apart from the widths required for passage. Considerations are also required to ensure that the routes for passage do not obstruct the sights of the viewing people.

(Protrusions)

C3-3 No protruding objects must be mounted in the corridors etc. unless necessary measures are implemented to ensure safe passage of persons with visual impairment.

C3-4 If it is essential to mount a protruding object on a wall at 650 to 2,100 mm above the floor level, the protrusion must be no more than 100 mm with the consideration for people with visual impairment who use a cane. [See Figure 3.3.2]

(Angled walls in corners)

G3-2 It is desirable that the angled walls in corners of corridors etc. are tapered or rounded to lower the risk of collision and also to facilitate easy reorientation for wheelchair users. [See Figure 3.3.3]

(Floor finish)

G3-3 It is desirable that floors are finished using shock-absorbing materials in case of fall accidents.

G3-4 It is desirable not to use thick carpets as these pose a considerable burden on driving wheelchairs.

C3-5 The floor must have a rough surface and be finished using slip-resistant materials.

(Wall finish)

G3-5 It is desirable that walls are protected with kick plates up to approximately 350 mm above the floor level, where wheelchair footrests can bump on easily (protection of wheelchairs, walls, etc.).

(Ensuring identifiable arrangements for floors and walls)

C3-6 Finishing materials for floors and walls must assist easy distinction between the wall and floor by using colours of different brightness, hue, or chroma

3-3-2. Equipment for resting

G3-6 It is desirable that equipment for resting is installed in appropriate arrangements so long as they do not obstruct people's movements.

G3-7 It is desirable to have equipment for resting adapted to the use by wheelchair users.

3-3-3. Lighting equipment

C3-7 Lighting equipment must be installed to ensure sufficient and even luminance for safe passage.

C3-8 In order to enhance the visibility of the floor surfaces, the corridors etc. must be installed with lighting equipment below the eye level, in addition to standard lighting.

3-3-4. Guiding tiles and other assistance for people with visual impairment

Refer to 3-11. Guiding tiles and other assistance for people with visual impairment for the guidelines concerning these facilities.

G3-8 It is desirable that continuous lines of guiding tiles are installed in corridors etc. depending on the purpose of use of the facility.

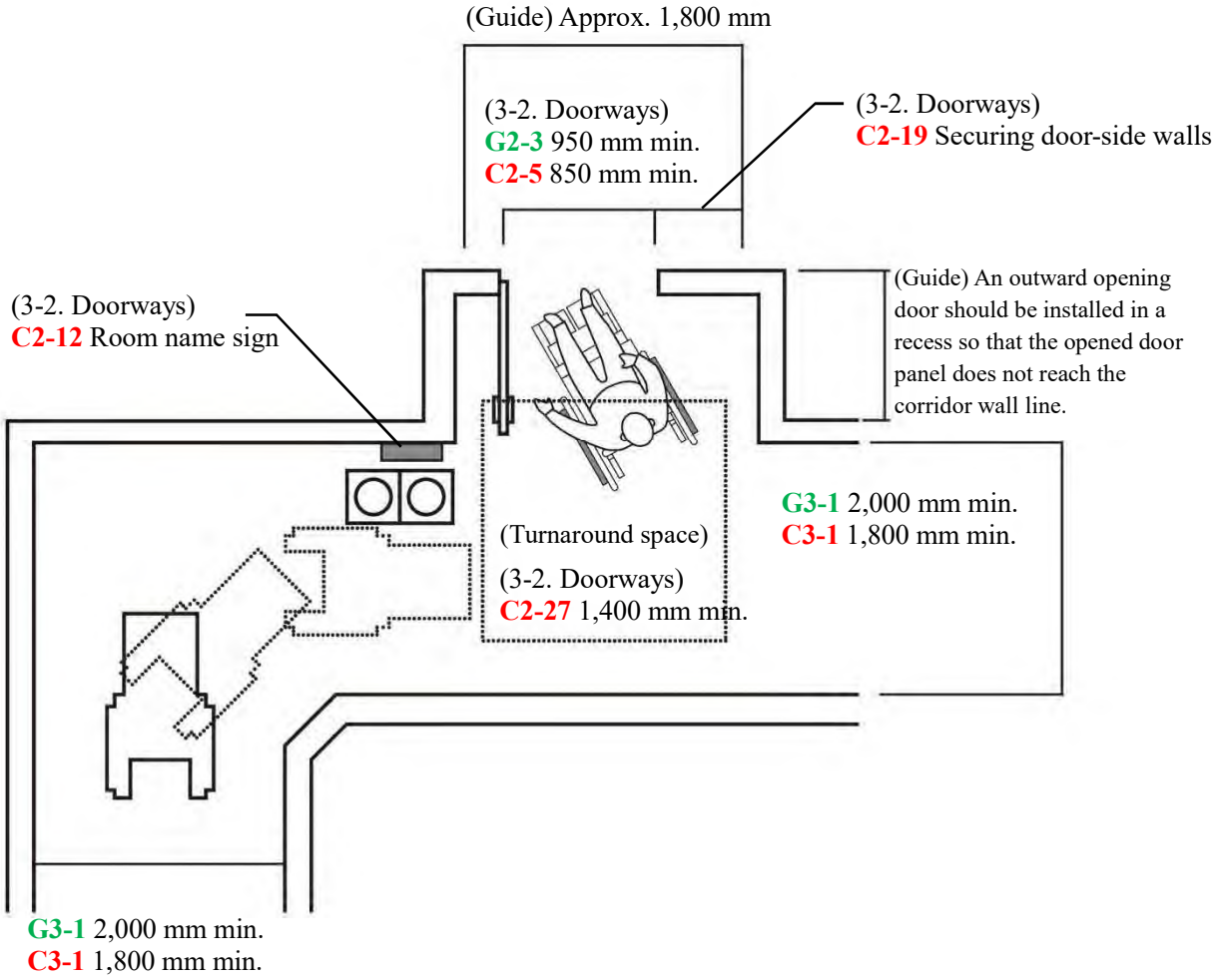


Figure 3.3.1 Illustration of corridor

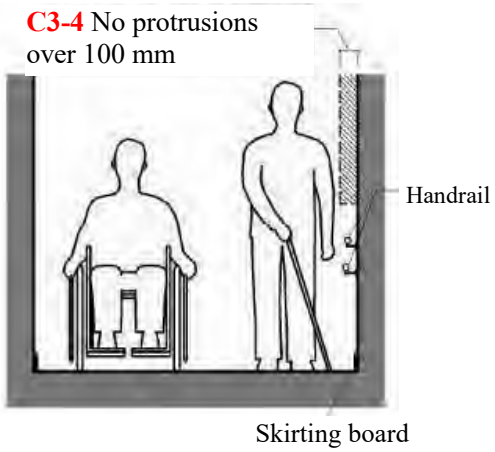


Figure 3.3.2 Protruding object on a passageway wall

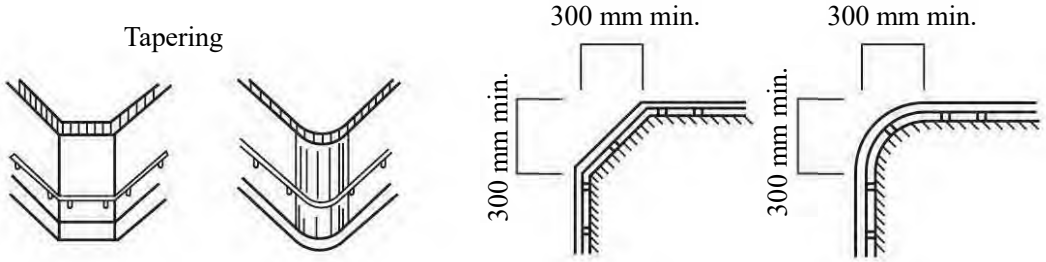


Figure 3.3.3 Tapering/rounding of corner walls (guide)

3-4. Stairways

Stairways require the elderly, people with disabilities, etc. to exert significant strengths to pass through. They also pose fall hazards. Therefore, arrangements must be made to reduce the risks and to lighten their exertion.

3-4-1. General guidelines

(Styles) [See Figures 3.4.1 and 3.4.2]

C4-1 Stairways must not involve winders.

C4-2 The dimensions of going and rise must be consistent in a single flight of stairs.

(Rise) [See Figure 3.4.3]

G4-1 It is desirable that the rise is no more than 150 mm.

C4-3 The rise must not exceed 160 mm.

(Going) [See Figure 3.4.3]

C4-4 The going must be at least 300 mm. Note that the going must be proportionate to the rise for easy and comfortable passage.

(Nosing)

C4-5 Steps must avoid projected nosing or similar structures that may be tripping hazards.

(Nosing depth) [See Figure 3.4.3]

C4-6 The nosing depth must be 20 mm maximum.

(Stair widths)

G4-2 Where the main passageway involves stairs without slopes, it is desirable that these stairs, whether they are installed outdoor or indoor, are at least 2,000 mm wide.

G4-3 It is desirable that all stairways are at least 1,400 mm wide with the consideration for people who use a cane or crutches.

C4-7 Where the main passageway involves stairs without slopes, these stairs, whether they are installed outdoor or indoor, must be at least 1,800 mm wide.

C4-8 The stairways must ensure appropriate widths based on the anticipated number of visitors likely to use them.

(Tread finish) [See Figure 3.4.2]

C4-9 The treads must have a rough surface and be finished using slip-resistant materials.

G4-4 It is desirable that the treads are finished using shock-absorbing materials in case of fall accidents.

C4-10 The treads must be demarcated for easy distinction between their edges (nosing) and surrounding areas (tread surface etc.) by colours of different brightness, hue, or chroma.

G4-5 To enhance the distinction of steps, it is desirable that the tread edges are demarcated in different luminance from the surrounding areas.

(Safety measures under stairways)

C4-11 Where a headroom is small, safety measures must be implemented to prevent head collisions.

(Installation of raised rails)

G4-6 It is desirable that, if a stairway is fitted with balustrade, the stair rail is raised at least 50 mm.

3-4-2. Lighting equipment

C4-12 Lighting equipment must be installed to ensure sufficient and even luminance for safe passage.

C4-13 In order to enhance the visibility of the floor surfaces, the stairways must be installed with lighting equipment below the eye level, in addition to standard lighting.

3-4-3. Turnings

(Collision prevention on landings)

G4-7 It is desirable that stairways with turns are equipped with mirrors on the landings to prevent people from colliding.

3-4-4. Guiding tiles and other assistance for people with visual impairment

Refer to 3-14. Guiding tiles and other assistance for people with visual impairment for the general guidelines concerning these facilities.

C4-14 The stairways must have tactile warning markings, such as textured floor tiles, at both ends of the flight and on the edges of the landing where a flight begins. [See Figure 3.4.2]

3-4-5. Handrails

Refer to 3-18. Fixtures and equipment (handrails, counters, vending machines, etc.) for the general guidelines concerning the handrails.

(Locations) [See Figures 3.4.4 and 3.4.5]

C4-15 Stairways must be installed with continuous handrails, including the landings.

C4-16 Handrails must be installed to match the gradient along the stairways so that the gradient can be detected by users. Wavy handrails are not acceptable.

C4-17 The handrails must be installed at approximately 750 to 850 mm above the nosing.

C4-18 A horizontal overhang of at least 450 mm must be provided at each end of the handrails in stairways to support the pedestrian's body for taking the first step or guide people with visual impairment.

(Indication in braille)

C4-19 At each end of stair handrails, indication/information/guide must be provided in braille, embossed lettering, etc. to notify of the present location and the floors above/below.

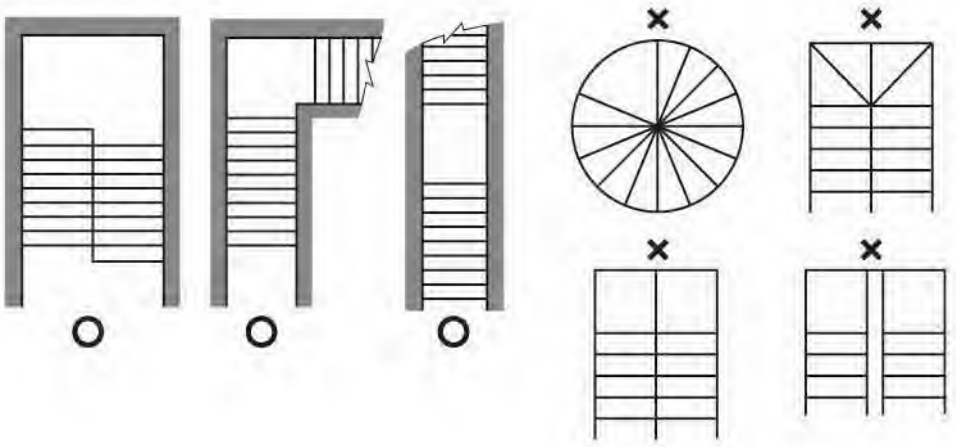


Figure 3.4.1 Shapes of stairways

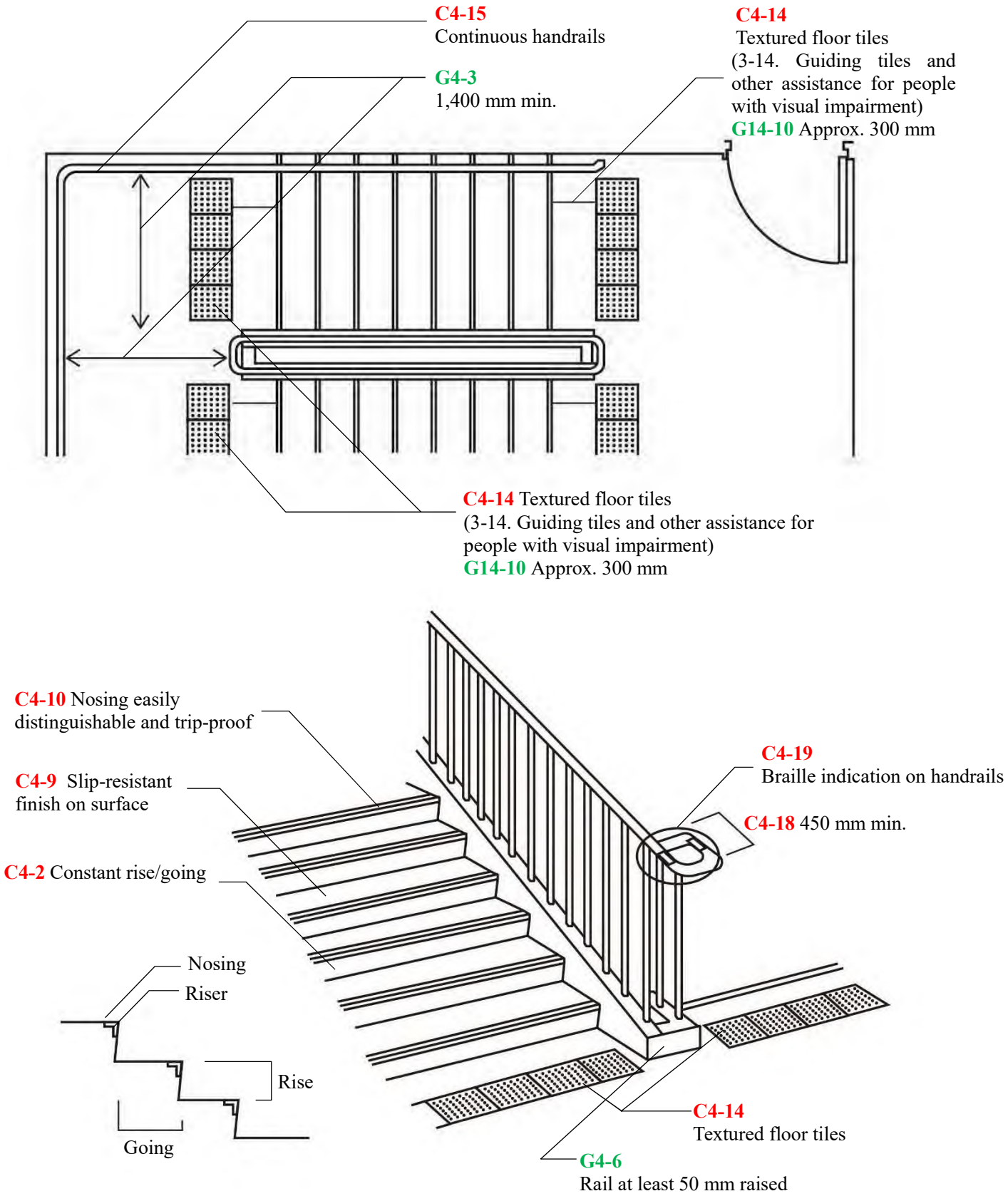


Figure 3.4.2 Safety measures in stairways

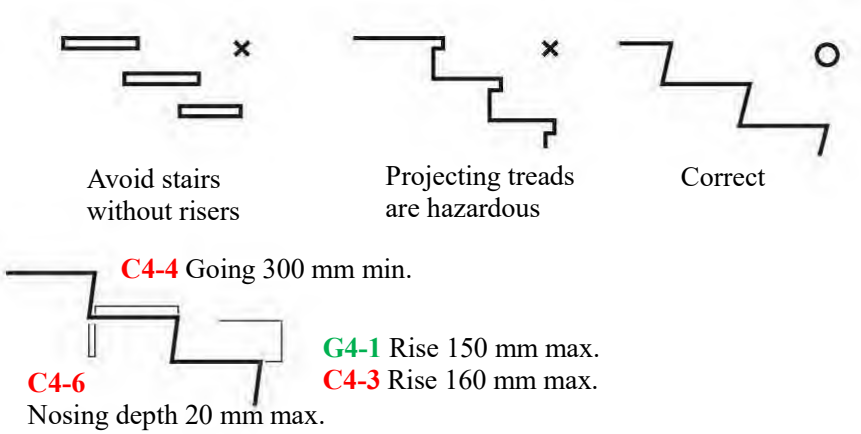


Figure 3.4.3 Rise, going, and nosing depth

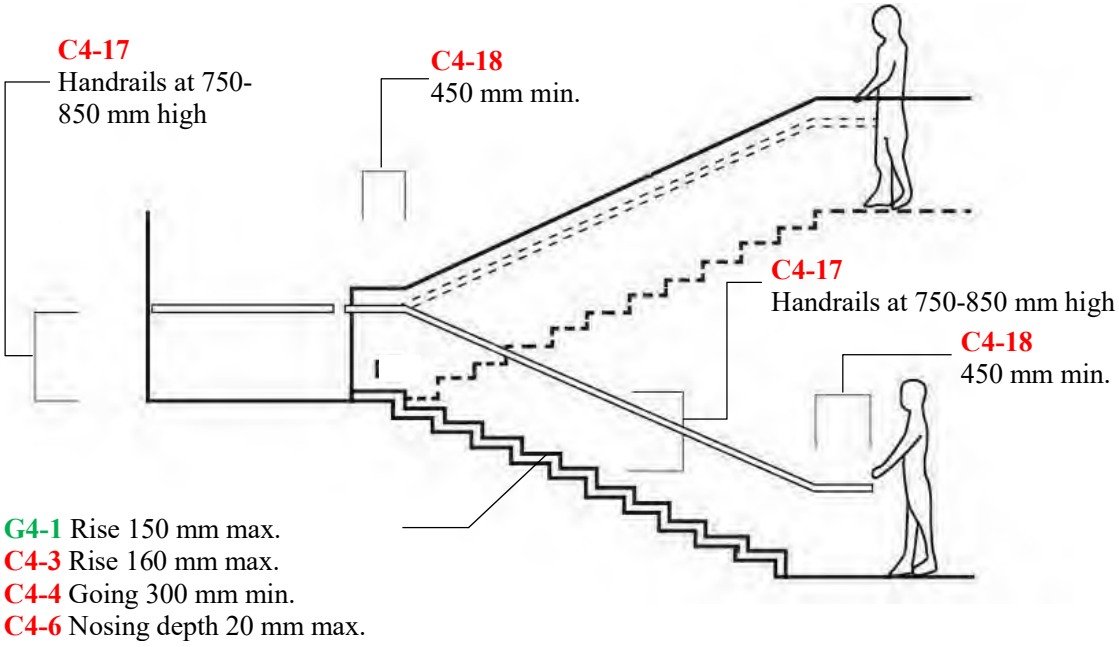


Figure 3.4.4 Measurements for stairways

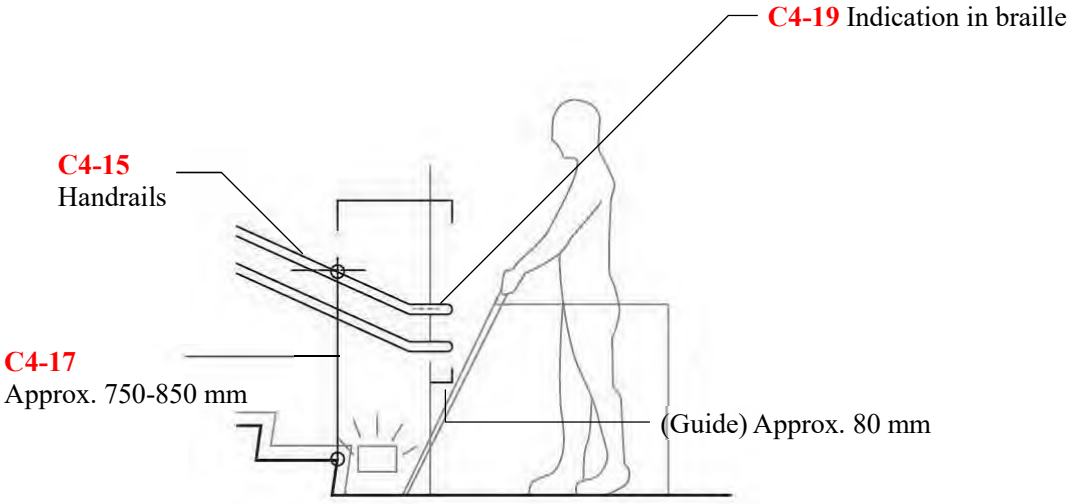


Figure 3.4.5 Stair handrails

3-5. Slopes

Slopes are the gradient surfaces installed to facilitate easy access to enter buildings or reach other destinations located on a different level. Facility implementation needs to ensure smooth access across different levels, and for this reason, main routes should be arranged with slopes where level differences are unavoidable. These will facilitate efficient mobility for all people, including wheelchair users, people with prams, and those who transfer heavy loads. This section describes the slopes to be implemented on the plots (outdoor) and in the buildings (indoor).

Note that gradients smaller than 600 mm in length and 75 mm in rise, such as dropped kerbs, are not considered slopes in the UD Guidelines.

3-5-1. General guidelines

(Provision as a principle)

G5-1 It is desirable to provide means of vertical mobility other than slopes, such as passenger lifts, where the slope would stretch over 60 m, or the rise exceeds 3 m.

(Widths)

G5-2 It is desirable that the slopes on the main routes, whether outdoor or indoor, are at least 2,000 mm wide and no narrower than the passageways on plot, corridors, etc. Where it is essential to install a slope outside the main routes (e.g., an additional slope to a stairway), it desirably has a minimum width of 1,400 mm.

C5-1 The slopes on the main routes, whether outdoor or indoor, must be at least 1,800 mm wide and no narrower than the passageways on plot, corridors, etc. Where it is essential to install a slope outside the main routes (e.g., an additional slope to a stairway), it must be at least 1,200 mm wide.

(Slope)

G5-3 It is desirable that the gradient of the slopes on the passageways on plot (outdoor) is no greater than 1:20.

C5-2 The gradient of slopes on the passageways on plot (outdoor) must be either 1:20 maximum (rise 151 mm min.), 1:10 maximum (rise between 76 mm and 150 mm), or 1:8 maximum (rise 75 mm max.).

G5-4 It is desirable that the gradient of slopes in the corridors etc. (indoor) is either 1:20 maximum (rise 301 mm min.) or 1:14 maximum (rise 300 mm max.)

C5-3 The gradient of slopes in the corridors etc. (indoor) must be either 1:20 maximum (rise 3,001 mm min.), 1:14 maximum (rise between 301 mm and 3,000 mm), or 1:12 maximum (rise 300 mm max.).

(Side rails)

C5-4 The slopes must have walls or raised rails on both sides.

G5-5 It is desirable that, if a slope is fitted with balustrade, the side rail is raised at least 50 mm.

(Path surface finish)

C5-5 The slopes must have a rough surface or be finished using slip-resistant materials on which canes, wheelchairs, and feet will not get easily caught on.

C5-6 The slopes must be demarcated for easy distinction from their connecting paths such as corridors etc. by colours of different brightness, hue, or chroma.

(Installation of steps alongside a slope)

C5-7 If a slope and steps are installed in parallel as part of a route, their relative orientation must be consistent to the extent possible within a single building.

G5-6 It is desirable that low-pitch steps with handrails are installed alongside a slope, as people with prosthetic limbs or hemiparesis may find steps easier to pass through than slopes.

3-5-2. Landings

(Installation intervals)

G5-7 It is desirable that landings are provided within every 500 mm in rise.

C5-8 Where the rise is more than 750 mm, the landings must be provided at a maximum interval of 750 mm.

(Landing lengths)

C5-9 Landings must be at least 1,500 mm long regardless of their installation locations. Note that, in the turnings and corners along the run, the landings must have the length no smaller than the widths of the adjoining slopes.

(Locations)

C5-10 For safe passage, pause, or turnaround, slopes must be provided with horizontal surfaces at least 1,500 mm long at each end, corner, turning of the run, and converging points with other passageways.

3-5-3. Lighting equipment

C5-11 Lighting equipment must be installed to ensure sufficient and even luminance for safe passage.

C5-12 In order to enhance the visibility of the floor surfaces, the slopes must be installed with lighting equipment below the eye level, in addition to standard lighting.

3-5-4. Guiding tiles and other assistance for people with visual impairment

Refer to 3-14. Guiding tiles and other assistance for people with visual impairment for the general guidelines concerning these facilities.

C5-13 The corridors etc. must have makings of textured floor tiles on the approach to each end of a slope so that people with visual impairment can recognise the existence of the slope. [See Figure 3.5.1]

C5-14 The landings must have markings of textured floor tiles on the approach to each end of a slope so that people with visual impairment can recognise the existence of the slope.

3-5-5. Handrails

Refer to 3-18. Fixtures and equipment (handrails, counters, vending machines, etc.) for the general guidelines concerning the handrails.

(Installation requirements) [See Figure 3.5.2]

C5-15 Handrails must be installed on both sides of a slope with a minimum gradient of 1:12 or a minimum rise of 160 mm. This control, however, does not apply if it is practically unrealisable due, for example, to the topographical conditions of the ground.

C5-16 The handrails must be continuous.

C5-17 The handrails must be installed to match the gradient along the slopes so that the gradient can be detected by users. Wavy handrails are not acceptable.

C5-18 A horizontal overhang of at least 450 mm must be provided at each end of the handrails in slopes to support the pedestrian's body for taking the first step or guide people with visual impairment.

(Indication in braille)

C5-19 The horizontal parts of handrails must have labels in braille, embossed lettering, etc. to notify of the present location and the floors above/below.

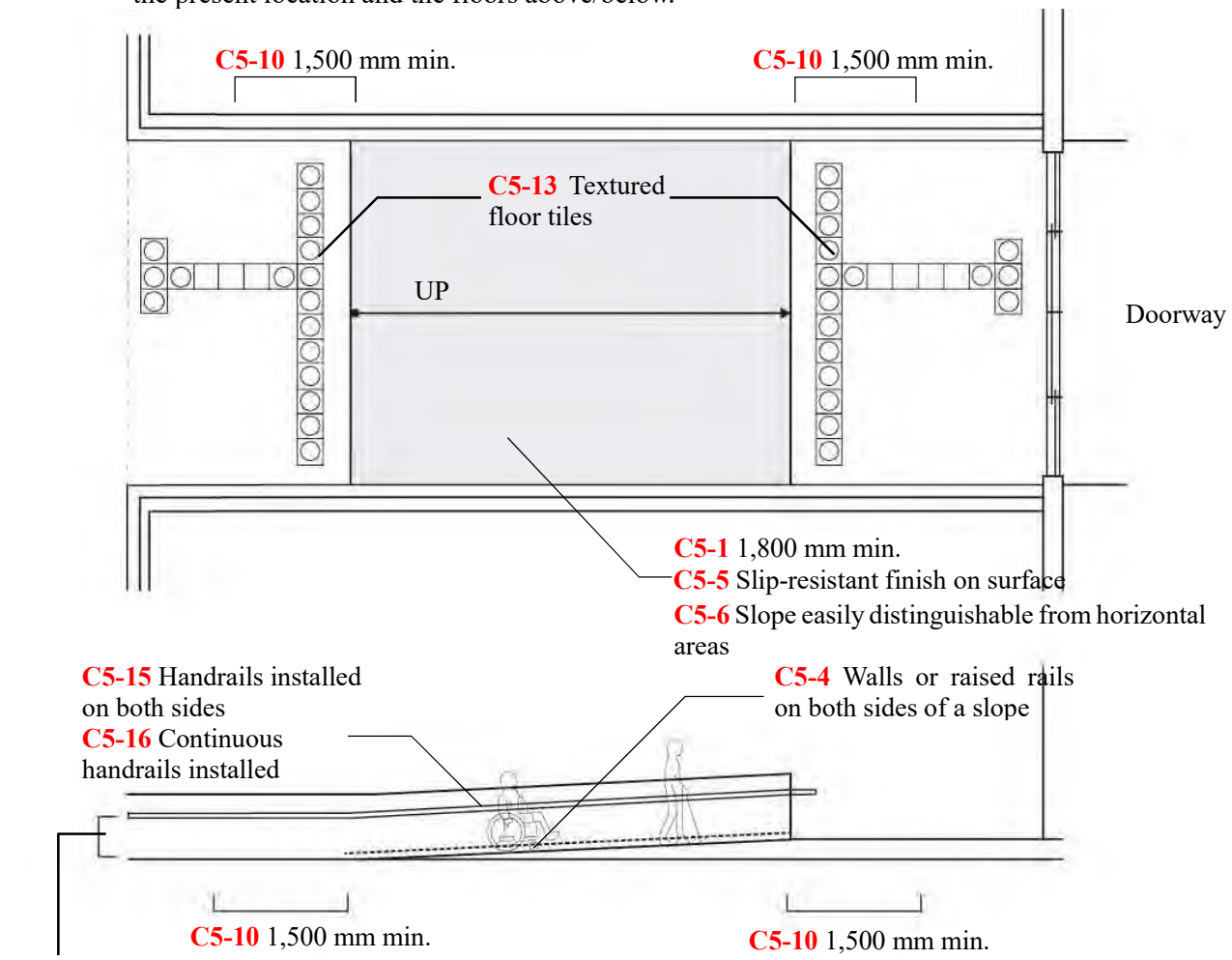


Figure 3.5.1 Slopes (outdoor)

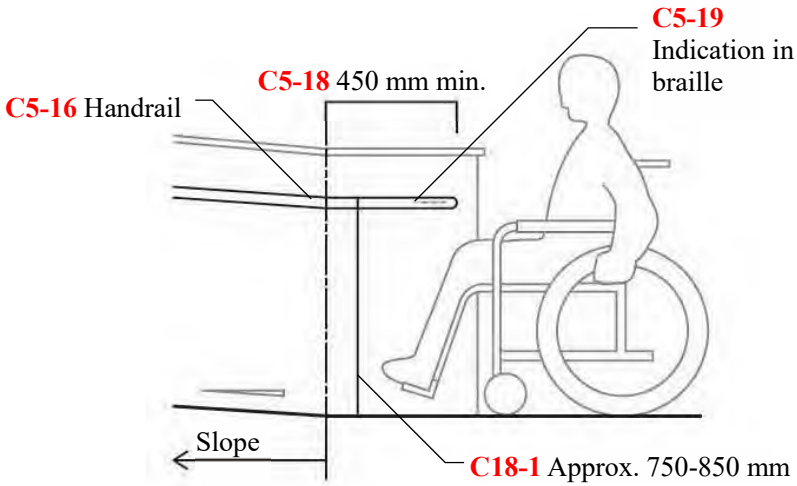


Figure 3.5.2 Handrails in slopes

3-6. Passenger lifts

Lifts are a necessary perpendicular mobility means for the elderly, people with disabilities, people in pregnancy, people accompanying babies/infants, etc. for safe and smooth passage. In large-scale commercial facilities, theatres, etc., where a number of wheelchair users etc. may converge at a time, the operational capacity of passenger lifts can drop during specific hours. For this reason, considerations are required to minimise the inconveniences people may experience in their ways, in terms of the number, position, car size, doorway width, ease of access, etc. of the lifts to be implemented.

A platform lift installed as an alternative to steps, if it is located further away from the main passageway, will cause inconveniences to those who need to use this facility. Therefore, it is necessary to arrange the lifts, slopes, escalators, and stairways as close to the main routes as practically possible.

Considerations are also necessary to ensure that persons with visual/auditory impairment are provided with information.

3-6-1. General guidelines

(Locations)

C6-1 Passenger lifts must be provided along or close to the main routes. Slopes, escalators, stairways, etc. must be located as close to the passenger lifts as possible.

(Tactile markings for passenger lifts)

C6-2 Textured floor tiles must be installed on the floor below the lift call buttons in lift landing areas so that people with visual impairment can recognise their locations.

(Styles)

G6-1 It is desirable that lift cars have two access doors located in the front and back so that wheelchair users can use them without having to turn around in the car.

G6-2 Where several lifts are installed in one area, it is desirable that they are of the same specifications.

C6-3 Passenger lifts must comply with both the Standards for elevators compatible with wheelchair users (JEAS-C506B) and the Standards for elevators compatible with people with impaired vision (JEAS-515E) (both issued by the Japan Elevator Association).

C6-4 The passenger lifts must be equipped with a central control system in the event of power outage, earthquake, and fire.

(Serviced floors)

C6-5 The passenger lifts must provide access to all floors that can be reached by stairways, escalators, and other means of mobility.

(Eaves)

C6-6 A shade or eave of a sufficient size must be installed over an exterior access point to passenger lifts in order to create a shelter from the sun and rain.

(Fire zoning)

G6-3 Erecting frames/columns for fire doors near lifts, in order to segregate the lift shafts, can not only be an obstacle for people with visual impairment but also cause hazards of collisions. Therefore, it is desirable to design the fire zoning that can avoid such an arrangement.

(Escort)

G6-4 It is desirable to provide senior people and people with disabilities with human assistance, such as escorting, to use the lift.

3-6-2. Doors

(Effective widths)

G6-5 It is desirable that the doorways of a car and lift entrance are at least 1,100 mm wide.

C6-7 The doorways of a car and lift entrance must be at least 1,000 mm wide. Note that the doorway widths in compliance with the JIS standards corresponding to the car size are acceptable.

(Door-side walls)

G6-6 It is desirable that the doorways of a car and lift entrance have no door-side walls, otherwise a door-side wall only on one side of the door.

(Door opening duration)

C6-8 The passenger lifts must be equipped with a feature to hold the doors of the lift car and entrance open for a longer period.

C6-9 The lift doors must stay open for approximately 10 seconds.

(Ensuring visibility)

C6-10 The doors of the cars and of lift entrances must be fitted with glass panes or the like, or an alternative system (such as visual equipment), that allow to view the inside of a car from outside. The glass panes etc. must be installed no lower than 300 mm above the floor. However, this guideline does not apply where such an arrangement may spoil the appreciation of exhibitions.

G6-7 It is desirable that the passenger lifts are visually identifiable from distance by the use of different or distinct colours.

(Safety system)

C6-11 The doorways of a car and lift entrance must be equipped with a system to automatically hold the doors open when a user is detected.

3-6-3. Lift cars

(Sizes)

G6-8 It is desirable that, taking into account the traffic volumes and venue sizes, the lift cars are at least 2,100 mm wide and 1,500 mm long or of an equivalent standard size (JIS A4301: 2,150 mm wide x 1,600 mm long; or 2,000 mm wide x 1,750 mm long (with a capacity of 24 passengers)), and that several lifts are provided.

C6-12 The lift cars must be at least 1,700 mm wide x 1,500 mm long, or of equivalent standard sizes (JIS A4301: 2,000 mm wide x 1,350 mm long; or 1,800 mm wide x 1,500 mm long (with a capacity of 17 passengers)). Where it is practically impossible to provide the cars of the specified sizes for structural reasons, lift arrangements must be planned to ensure smooth mobility of visitors by, for example, providing a multiple number of lifts.

(Luminosity)

C6-13 The in-car lighting must have the luminosity that is approximately equal to the luminance in the lift access halls and adjacent passageways. It must ensure even brightness without flickering.

(Handrails)

Refer to 3-18. Fixtures and equipment (handrails, counters, vending machines, etc.) for the general guidelines concerning the handrails.

C6-14 The lift cars must be fitted with handrails on both side walls.

(Installation of mirrors)

G6-9 It is desirable that the lift cars are fitted with a mirror (in stainless, safety glass, etc.) on the wall opposite the doorway opening, installed from the floor level up to approximately 1,500 mm high and 800-1,000 mm wide, so that wheelchair users can view the area around the doorway and ascertain safe use of the lift.

C6-15 Mirrors must be installed inside cars so that wheelchair users can ascertain their safe passage around the doorway of the car and lift entrance when entering or leaving the car. This control, however, does not apply to those passenger lifts with a multiple number of doorways and equipped with a system that allows wheelchair users a smooth transition (only those with the equipment that announces the next-opening doorway in voice).

3-6-4. Call buttons, operation panels, and information systems

(Installation positions)

C6-16 The floor call buttons (control system) inside lift cars and the operation panels (control system) in landing areas must be installed at approximately 1,000 mm above the floor level so that wheelchair users can operate them easily. Inside a car, the facility must be positioned above the handrail level.

C6-17 The cars must have operation panels fitted on both side walls (a main and additional panels).

C6-18 At least one operation panel in a car must be equipped with a two-way communication system and a call button.

G6-10 If only one operation panel can be provided in a car, it is desirable that this is mounted on the right wall when facing the doorway from inside the car.

(Call buttons and operation panel buttons)

G6-11 It is desirable that the buttons to operate the lifts are large and round in shape. It is also desirable that the buttons light up and chime when pressed so that persons with visual or auditory impairment can understand a successful operation.

G6-12 It is desirable that the lettering on the buttons is easily distinguishable from the surrounding areas by colours of different brightness, hue, or chroma with the consideration for people with low vision.

G6-13 It is desirable that kick buttons, infrared non-contact door-operating system, etc. are also provided with the consideration for the users who are unable to use their hands/elbows to operate the buttons on an operation panel.

C6-19 Call buttons and buttons on operation panels must have the features that allow people with visual impairment to operate them without difficulties, such as labelling in braille as well as embossed lettering, voice guide, and the like.

(Indication in braille)

C6-20 Indication in braille must be provided for each button on an in-car operation panel (floor call, door operation, and emergency call buttons as well as a two-way communication system) installed at a position to be operated by an ambulant person.

C6-21 The braille indication must comply with the JIS T 0921 standards.

C6-22 The braille indication must be positioned to the left of the buttons arranged vertically, or above the buttons arranged horizontally.

(Information systems)

C6-23 The lift cars must be equipped with a system that indicates the floors to stop at and the present position, fitted at a position that is clearly visible to everyone in the car.

C6-24 The lift cars must be equipped with a voice information system that announces the next floor to stop and warns of the closing doors.

C6-25 The lift cars must be equipped with a voice information system that announces the car's direction of travel.

G6-14 It is desirable that information is provided in the lift access halls and lift cars about the usage of spaces and available services on each serviced floor.

G6-15 It is desirable that dual-doorway lifts are equipped with a voice information system that announces the next opening doorway.

(Overload alarm)

G6-16 It is desirable that lift cars are equipped with indication lamps and an automated announcement system to alarm overload.

(Emergency communication system)

C6-26 The lift cars must have equipment that allows people inside the car to communicate with the facility administrator etc. in emergencies, such as a lift breakdown and power outage. This equipment must include voice announcements, electronic/digital information display, and monitoring system (which can capture the in-car environment) enabling communication in sign language.

3-6-5. Lift landing areas

(Size)

G6-17 It is desirable that lift landing areas measure at least 2,000 mm both in width and length.

C6-27 The lift landing areas must involve no level differences and measure at least 1,800 mm both in width and length. Note that the area size must be able to accommodate waiting visitors comfortably and facilitate smooth transition with considerations for the building size and traffic volume.

(Level gap between car and landing)

C6-28 The car floor and landing floor must be aligned, and the gap between them must be no more than 30 mm to prevent wheelchair caster wheels from being caught.

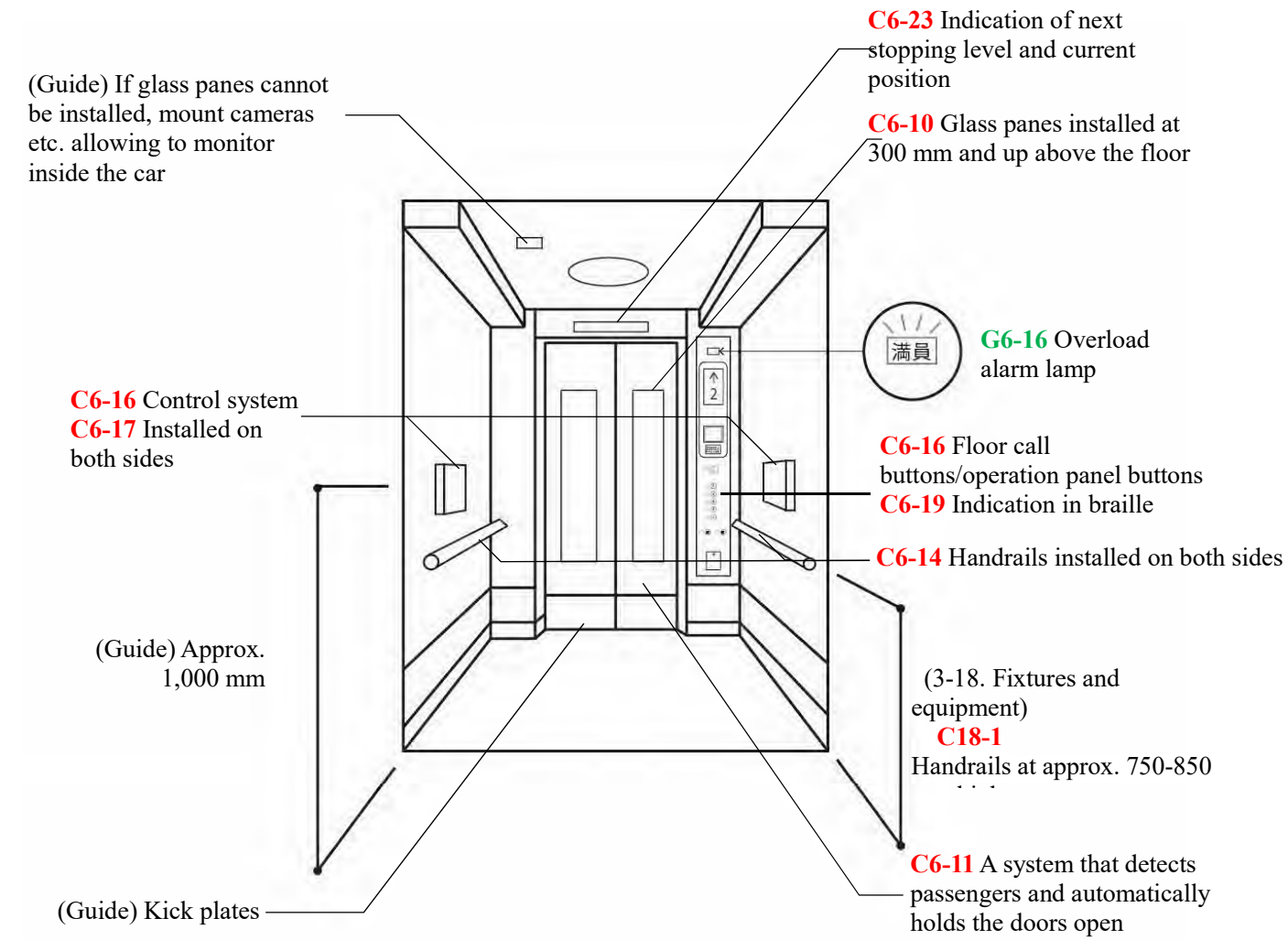
(Information display)

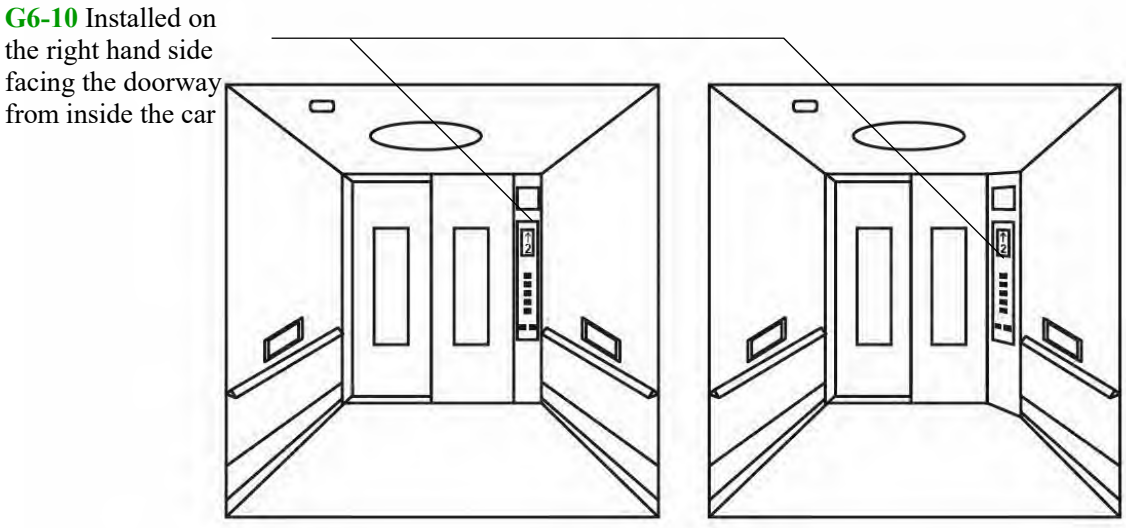
C6-29 The lift landing areas must be equipped with an information system that notifies the arriving car's travelling direction.

3-6-6. Guiding tiles and other assistance for people with visual impairment

Refer to 3-14. Guiding tiles and other assistance for people with visual impairment for the general guidelines concerning these facilities.

C6-30 Floor markings using textured floor tiles must be installed below the lift call buttons so that people with visual impairment can easily recognise the location of the call buttons.





G6-10 Single operation panel installation position

Figure 3.6.1 Lift design illustration (1)

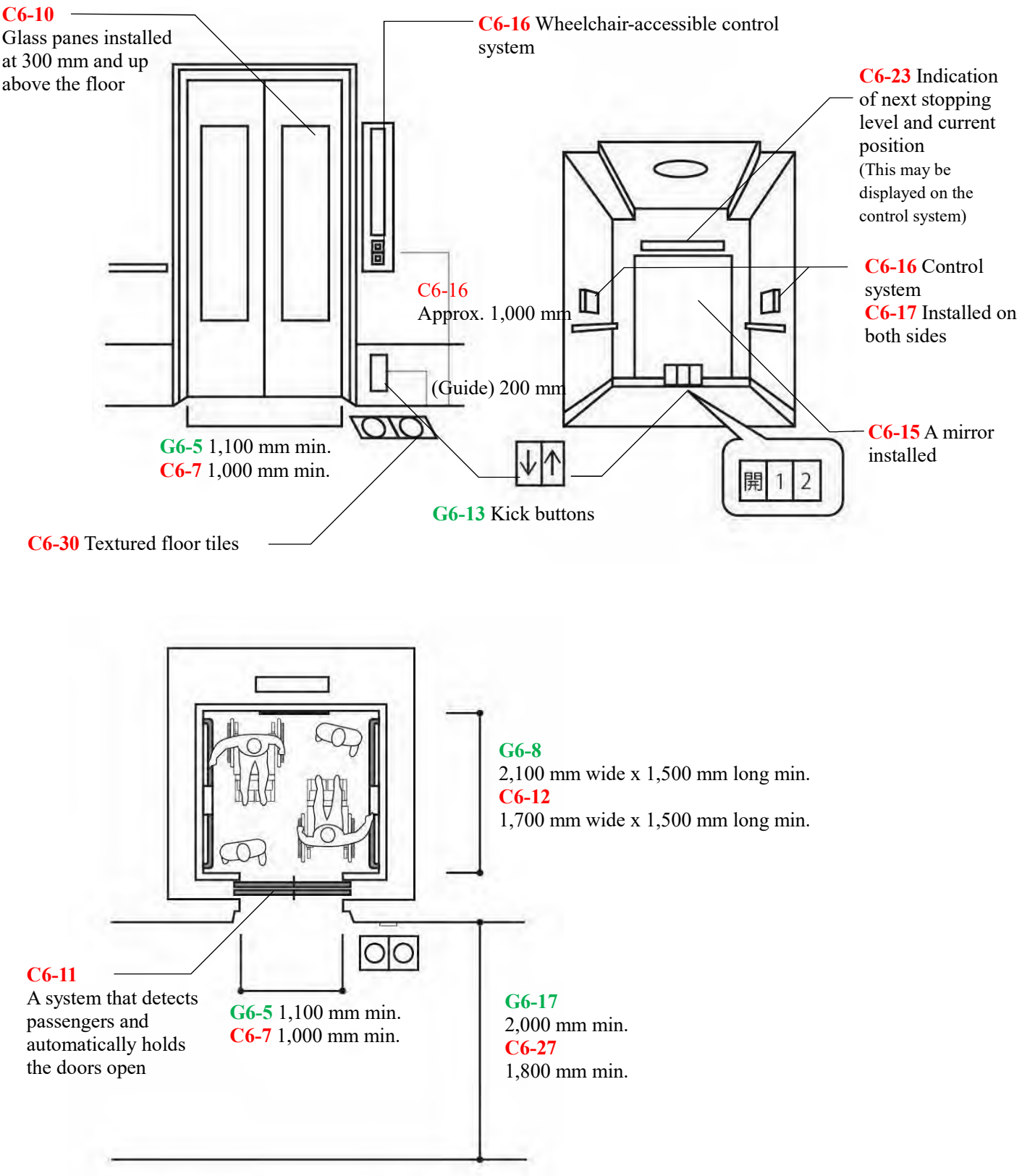


Figure 3.6.2 Lift design illustration (2)

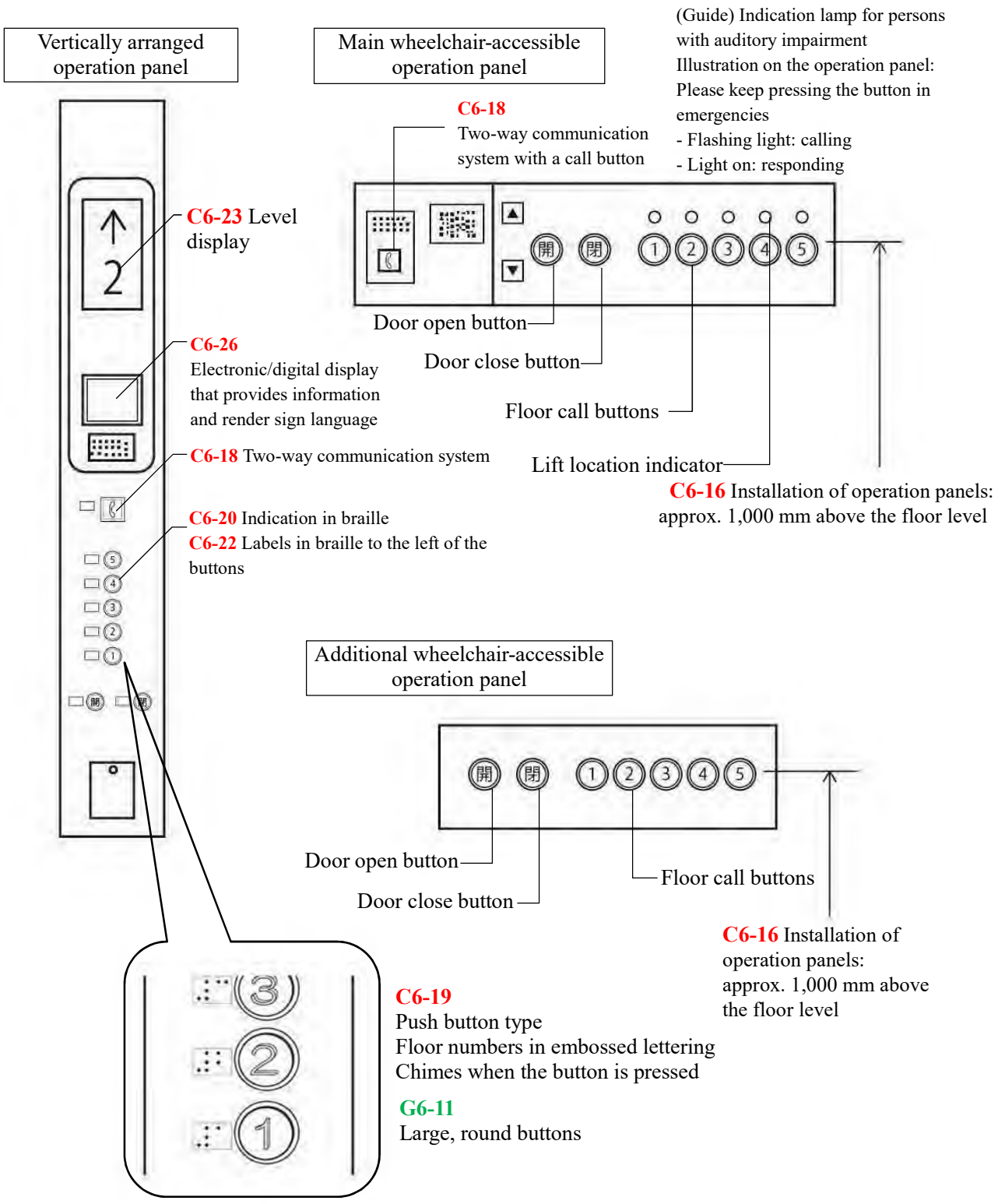


Figure 3.6.3 Control system

3-7. Escalators

While lifts are a fundamental means of vertical travel that caters for the special needs of the elderly and people with disabilities, escalators are also a viable means for many, including people without disabilities. Where escalators are to be installed, due considerations must be given to senior people and persons with disabilities. As for the escalators for horizontal mobility, these must be based on the standards set forth in these guidelines for the escalators for horizontal mobility.

3-7-1. General guidelines

(Widths)

G7-1 It is desirable that the width is in alignment with the type-1000 (the effective width of step approx. 1,000 mm).

(Distinctiveness of steps)

C7-1 The steps must be easily distinguishable from the combs by the use of colours of different brightness, hue, or chroma.

C7-2 The steps must be demarcated on the side edges for easy distinction from one another by colours of different brightness, hue, or chroma.

G7-2 It is desirable that the steps are demarcated on all edges for easy distinction from one another (for example, side edges in yellow and nosing in green).

(Level steps)

C7-3 The level area on a flight must have approximately three steps.

(Number of steps before reaching the normal step height)

G7-3 It is desirable to ensure a slow, gradual transition from the horizontal area to the normal step height.

C7-4 The number of steps before reaching the normal step height must be approximately 5 steps.

(Structure of moving handrails)

C7-5 Moving handrails must have horizontal extension of 1,200 mm minimum before steps start rising/dropping at each end of the flight.

G7-4 It is desirable that the moving handrails extend approximately 700 mm from the comb before boarding and after alighting.

G7-5 It is desirable that measures are put in place to prevent injuries as a result of being caught between the moving and fixed handrails.

(Installation of fixed handrails)

G7-6 It is desirable that the boarding and landing areas of escalators are provided with fixed handrails at least 1,000 mm long.

(Lighting equipment)

C7-6 The floors of boarding/landing areas must be appropriately lit.

(Other)

C7-7 Where escalators are installed in parallel for both ascending and descending, the direction of travel must be on the left one.

3-7-2. Cautionary notice

(Signage/notices/markings)

C7-8 Notices (signage) for escalators must be provided near the escalators.

G7-7 It is desirable that the escalators have notices displayed to caution against the risks of injuries by being caught in or falling.

(Textured floor tiles)

C7-9 Textured floor tiles as warning markings must be installed on the floor inside the fixed handrails, at approximately 300 mm before the landing plate at the boarding and landing areas of an escalator.

3-7-3. Measures for guiding

(Voice information systems)

C7-10 Voice guidance equipment must be installed to provide information about the escalator's destination or direction of travel (ascending/descending; in the case of moving walks, entry/exit).

3-7-4. Emergency safety measures

(Emergency stop buttons)

C7-11 The escalators must be fitted with emergency stop buttons on the walls or pillars near the boarding and landing areas.

(Sensors to prevent entry in the wrong direction)

C7-12 The escalators must be equipped with sensors to prevent people from entering in the wrong direction.

(Monitoring cameras)

G7-8 It is desirable that observation cameras are installed to monitor the escalator operations.

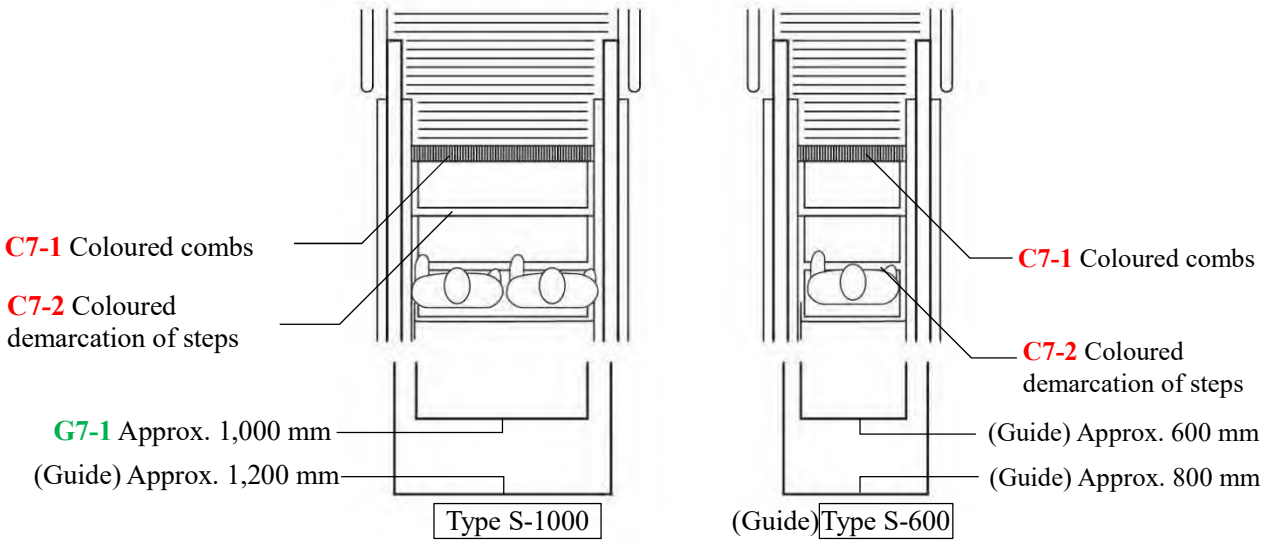


Figure 3.7.1 Escalator widths

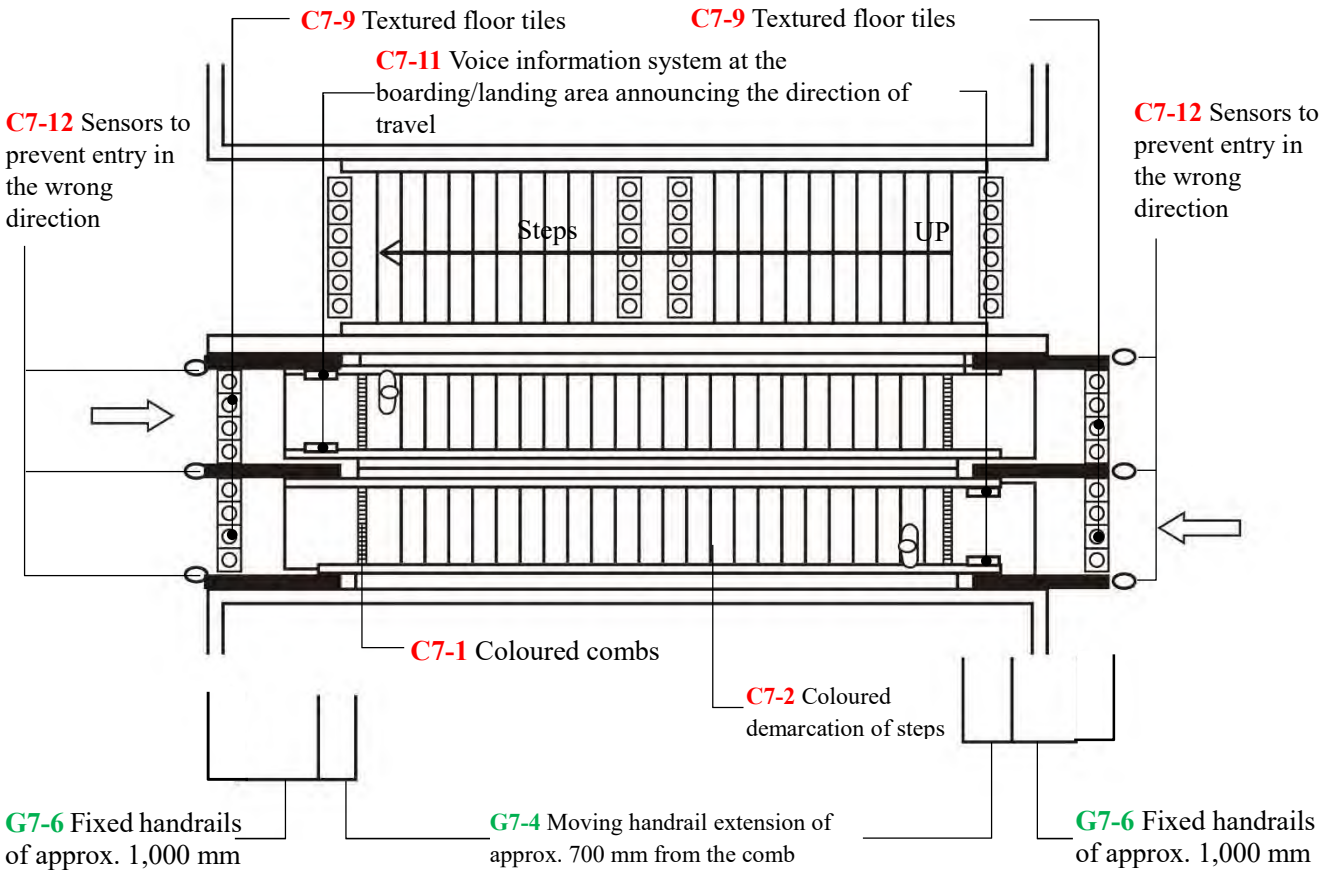


Figure 3.7.2 Illustration of escalator designs (plan view)

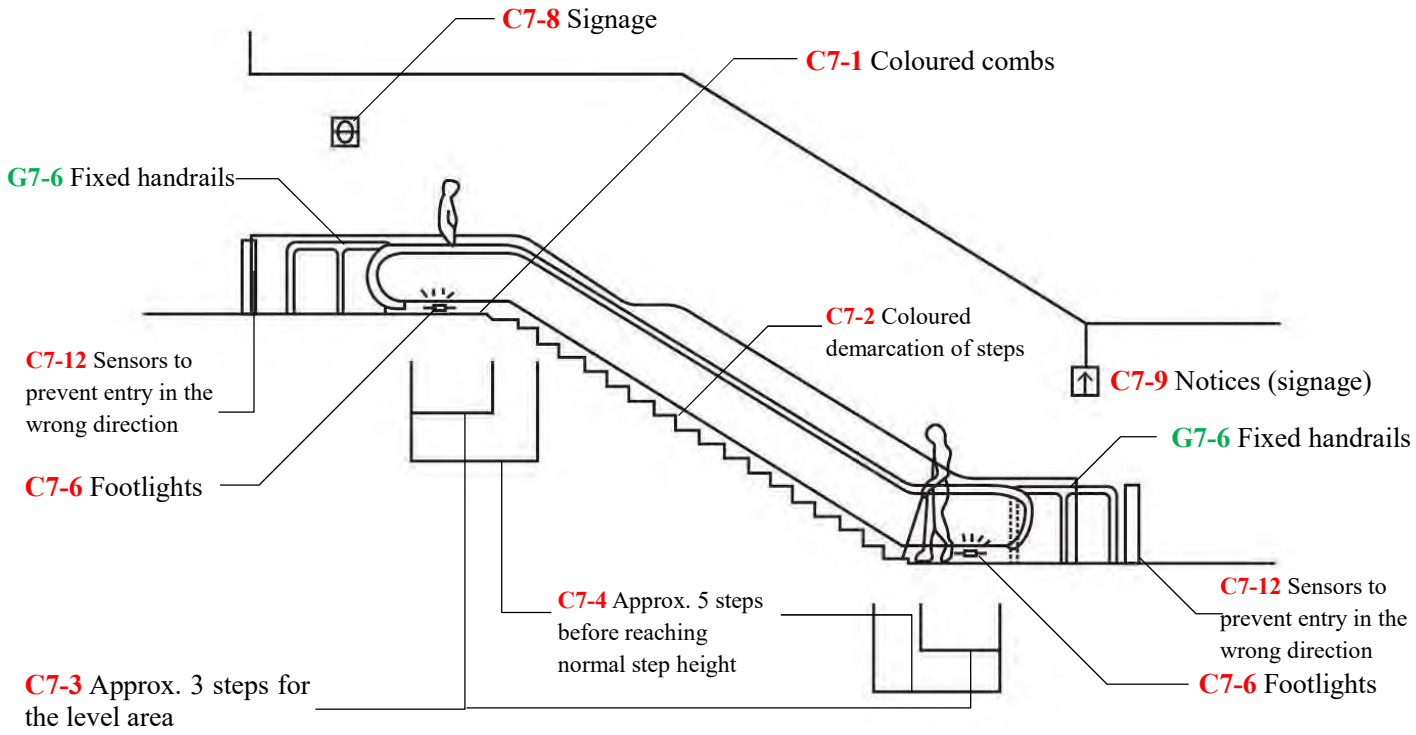


Figure 3.7.3 Illustration of escalator designs (section view)

3-8. Platform lifts

While passenger lifts are a fundamental means of vertical travel that caters for the special needs of the elderly and people with disabilities, platform lifts may also serve the same purpose effectively for wheelchair users where the travel required is between about two floors. Where platform lifts are to be installed, due considerations must be given to wheelchair users.

Platform lifts are devices which wheelchair users can operate in their seated position. The car has the rated speed of 15 m/minute maximum and the floor area of 2.25 square meters maximum.

3-8-1. General guidelines

(Dimensions)

C8-1 The platform must be at least 900 mm wide and 1,500 mm long.

(Adjacent areas)

C8-2 An area of 1,500 mm square minimum must be provided to access the platform lift.

(Positions of call buttons in height)

C8-3 Call buttons must be installed at approximately 700-1,200 mm above the floor.

(Doorways)

C8-4 The doorway must be at least 900 mm wide.

C8-5 Door-side walls must be installed.

(Handrails)

G8-1 It is desirable that the platform lifts are fitted with at least two handrails, each mounted at approximately 800-1,000 mm above the floor.

(Control system)

G8-2 It is desirable that the operation panels can be operated with the elbow.

G8-3 It is desirable that operation panels are also provided outside to operate the lift externally.

(Distance of travel)

C8-6 The maximum distance of travel must be 2,000 mm for lifts without doors and 4,000 mm for lifts with doors.

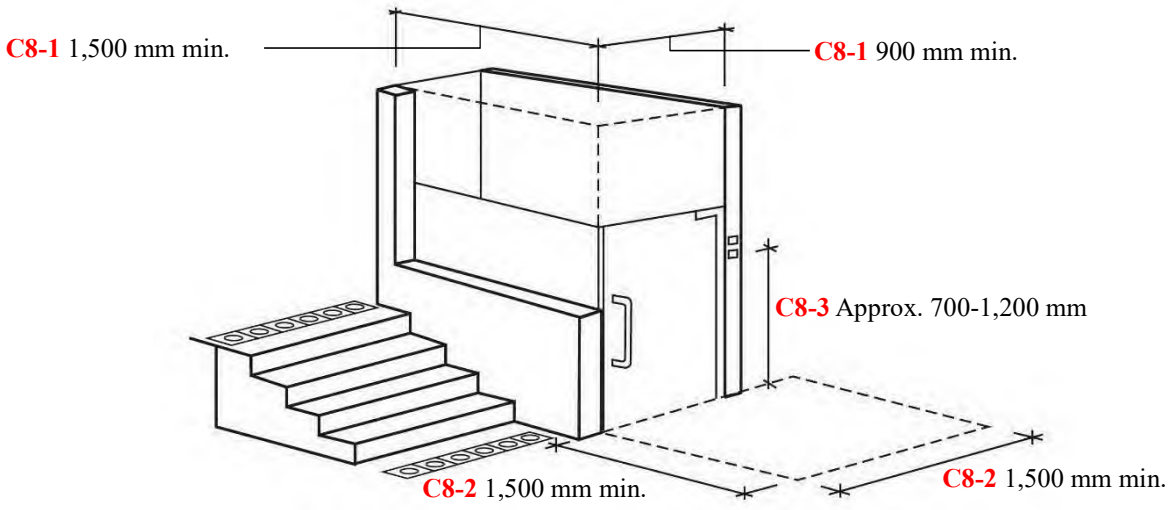


Figure 3.8.1 Platform lifts

3-9. Toilet Facilities

It is necessary that toilet facilities are planned and designed according to the purpose and scale of the facilities, that is easily accessible by all people, including the elderly, people with disabilities, caregivers of all genders, transgender individuals, and people accompanying babies/infants.

Given the recent trend for people to opt using accessible toilets which integrate conventional features, those who truly require those features find them unavailable when needed. It is necessary for specific features to be available among genera individual toilet spaces through slight modifications and for the toilet facilities to be in dispersed locations to ensure availability for use by all kinds of people.

Pavilions are not obligated to provide toilet facilities, but it is desirable for toilet facilities to be available for visitors to use according to the Guidelines in facilities where the duration a visitor stays is generally long, the traveling distance is long, or where eating and drinking is entailed.

See 3-16. Baby care rooms for information on equipment for babies/infants.

3-9-1. Locations

(Wheelchair-accessible individual toilet space)

C9-1 At least one individual toilet space must be provided that is easily accessible to wheelchair users when installing toilet facilities. [See Figure 3.9.1]

C9-2 Wheelchair-accessible individual toilet space must be planned as an integral part of a toilet facility wherever it is possible.

C9-3 At least one wheelchair-accessible individual toilet space that is in consideration of caregivers or people accompanying wheelchair users of all genders must be provided in a location that can be used by anyone.

(Individual toilet spaces accessible for ostomy bag users)

C9-4 At least one individual toilet space must provide facilities for emptying ostomy bags.

(Specific features, dispersed locations) [See Figure 3.9.3]

G9-1 To prevent overcrowding of wheelchair-accessible individual toilet spaces equipped with various features, it is desirable for individual toilet spaces with the following specific features to be installed in dispersed locations. [See Figure 3.9.4]

- Install toilets that are all-gender other than as part of wheelchair-accessible individual toilet spaces.
- Install a minimal wheelchair-accessible individual toilet space (with doorways having effective width and minimum space for wheelchair users) in men's and women's toilet facilities as well [See Figure 3.9.9]
- Install ostomy equipment and baby/infant equipment in men's and women's toilet facilities.

C9-5 When installing multiple individual toilet spaces to prevent crowding of wheelchair-accessible individual toilet spaces equipped with more features, from among minimal wheelchair-accessible individual toilet spaces, ostomy equipment, baby/infant equipment, etc., specific features with the most demand that will help alleviate overcrowding are to be installed in individual toilet spaces in dispersed locations. [See Figure 3.9.4]

3-9-2. Doors

(Widths)

G9-2 It is desirable for doorways to wheelchair-accessible individual toilet spaces to be at least 950-1,000 mm wide.

C9-6 Doorways to wheelchair-accessible individual toilet spaces must be at least 850 mm wide.

G9-3 It is desirable for doorways to general individual toilet spaces to be at least 750 mm wide which makes them accessible to wheelchair users.

C9-7 All doorways to toilet facilities leading to individual toilet spaces must be at least 800 mm wide.

(Styles)

G9-4 It is desirable for doorways to wheelchair-accessible individual toilet spaces and minimal wheelchair-accessible individual toilet spaces to be equipped with an automatic door.

C9-8 Doorways leading to wheelchair-accessible individual toilet spaces and minimal wheelchair-accessible individual toilet spaces must have a sliding door but not the accordion type (if structurally restricted in the case of minimal wheelchair-accessible individual toilet spaces, a folding-type door is acceptable but it must be one that a wheelchair user is able to open and close unassisted.)

C9-9 Manual sliding doors must be fitted with bar handles that put easy grip into consideration. Hinged doors must be equipped with lever handles that are large enough for easy operability.

(Approach to the toilet)

C9-10 There must be no level changes in the approach to the doorway of toilet facilities. If it is structurally unavoidable, a slope must be installed.

C9-11 The area in front of doorways to wheelchair-accessible individual toilet spaces and toilet facilities equipped with wheelchair-accessible individual toilet spaces must include space with a level surface that is at least a 1,400 mm square.

(Door operation buttons)

C9-12 If using automatic door operation buttons in toilet areas, push buttons must be installed for easy operability as some people are unable to use the system that involves holding a hand over a sensor.

C9-13 If using automatic door operation buttons in toilet areas, push buttons must be installed at least 700 mm away from the door so that it does not become an obstacle to passage.

(Features)

C9-14 Doors for general individual toilet spaces must be structured so as to be in the open position when unoccupied.

G9-5 It is desirable for doors to wheelchair-accessible individual toilet spaces to be fitted with speed control and/or damping systems.

(Locks)

C9-15 The door locking system for wheelchair-accessible individual toilet spaces must be easy to operate by people who have difficulties using their hands, and it must be possible for doors to be unlocked from outside in case of an emergency. [See Figure 3.9.6]

C9-16 Where the individual toilet spaces are fitted with manual sliding doors, the lock system must be one that can be operated easily by people who have difficulties using their fingers, and that the doors can be unlocked from outside in case of an emergency.

C9-17 The door locking system must be fitted around the doorknob so that it is easy to find for people with visual impairment, and any baby chairs that are installed must be placed where babies/infants cannot reach the door locking system.

G9-6 It is desirable for the door locking system to wheelchair-accessible individual toilet spaces to be fitted in two places, one at a height that is easy to reach for wheelchair users and another that is easy to use in a standing position. (To prevent unlocking by children)

(Occupancy indicator)

C9-18 Wheelchair-accessible individual toilet spaces must have a system to display an “occupied” sign in a location conspicuous from the outside.

G9-7 It is desirable that doors for general individual toilet spaces are fitted with a device that indicates occupancy status.

3-9-3. Individual toilet spaces

(Size of wheelchair-accessible individual toilet space)

The toilets must ensure sufficient space for wheelchair users inside the cubicle.

C9-19 Dimensions inside wheelchair-accessible individual toilet space must be at least 2,200 mm x 2,200 mm with a turning space of at least 1,800 mm in diameter, so that users of large electric wheelchairs can rotate inside.

G9-8 Assuming features are in dispersed locations, it is desirable for space to be secured according to the added features.
[See Figure 3.9.5]

(Toilet bowl access in wheelchair-accessible individual toilet spaces)

C9-20 The toilet bowl in a wheelchair-accessible individual toilet space must be positioned so that it allows not only to approach from the front end, but also to slide onto the seat from the left or right side.

C9-21 When installing more than one wheelchair-accessible individual toilet space, there must be at least

one toilet bowl each that allows sliding onto the seat from the right side and from the left side.

(Space for a wheelchair on one side of a toilet bowl in wheelchair-accessible individual toilet spaces)

C9-22 Wheelchair-accessible individual toilet spaces must have a space at least 750 mm wide (800 mm or more recommended) inside the cubicle so that a wheelchair user can slide onto the toilet seat sideways.

(Size of minimal wheelchair-accessible individual toilet spaces) [See Figure 3.9.9]

C9-23 At least 2,000 mm x 1,300 mm must be secured for front/side entry.

C9-24 At least 1,800 mm x 1,500 mm must be secured for side entry.

(Handrails)

C9-25 Wheelchair-accessible individual toilet spaces must be equipped with appropriate handrails on both the left and right-hand sides.

C9-26 Handrails in wheelchair-accessible individual toilet space must include vertical and horizontal ones next to the toilet bowl on both sides, and the vertical handrails must be firmly fixed on a wall, etc. and the other must be a movable type.

C9-27 The handrail alongside the wall of a wheelchair-accessible individual toilet space must be L-shaped, height of horizontal handrails approx. 200-250 mm from the toilet seat, vertical handrails mounted approx. 250 mm apart from the end of the toilet bowl, handrails installed on both sides be approx. 700-750 mm apart, and handrails on both sides be installed in an even distance from the centre of the toilet seat. [See Figure 3.9.1]

G9-9 It is desirable that the handrails inside an individual toilet space can sustain 1 kN of load in any direction.

G9-10 It is desirable that the handrails, toilet bowl, and walls inside an individual toilet space are in contrast from each other in consideration of people with low vision.

3-9-4. Toilet bowls/urinals

(Styles)

C9-28 Toilet bowls must be of a seating type (standard style) in general.

G9-11 It is desirable that toilets are fitted with a spray wash feature.

G9-12 It is desirable that a toddler urinal is installed in all toilet facilities.

(Types of bowls in wheelchair-accessible individual toilet space)

C9-29 The toilet bowls must be of a seating type.

C9-30 Toilet bowls must be fitted with a back rest.

C9-31 Toilet bowls must be of the floor mounted type, with a small trap projection, so that wheelchairs (including electric ones) can approach close to it without the footrests getting in the way.

(Toilet seat heights for wheelchair-accessible individual toilet spaces) [See Figure 3.9.1]

C9-32 Seats in wheelchair-accessible individual toilet space must be approx. 420-450 mm high excluding the lid.

(Provision of urinals)

C9-33 Where men's toilet facility includes urinals, at least one urinal must comply with the following requirements. [See Figure 3.9.10]

(1) Floor or wall mounted urinal (350 mm max. from floor to lip of the bowl).

(2) Handrails provided to assist people with physical impairments, such as cane users, to hold on to stabilise their bodies.

(3) Must be installed at a position nearest to the lavatory entrance.

(Amenity goods for urinals)

G9-13 It is desirable that urinals have target point marking or footprint markings.

G9-14 It is desirable that a hook or similar device to rest a cane, umbrella, etc. on is provided near each urinal.

G9-15 It is desirable that a stand for personal belongings is provided by each urinal that is reachable by a person in a wheelchair (including electric ones).

3-9-5. Flooring

(Finish)

C9-34 The floor must have a rough surface or be finished using slip-resistant materials.

G9-16 The finish materials must also have an appropriate level of elasticity to lessen the trip injury risks.

3-9-6. Auxiliaries in individual toilet spaces

(Installation of operation equipment etc.)

C9-35 When mounted on a side wall, flush buttons, call buttons, and paper (roll) holders must be positioned in compliance with the standard JIS S0026 (ISO19026) in principle and take into consideration being in contrast from their surroundings.

(Flushing system)

C9-36 The flushing system installed for toilet bowls in wheelchair-accessible individual toilet space and those accessible for ostomy bag users must be equipped with push buttons or other easy-to-operate mechanisms. [See Figure 3.9.7]

C9-37 Wheelchair-accessible individual toilet spaces must have a flush button on the cubicle wall, with a label in braille.

C9-38 Operation of the flushing system is to use push buttons in principle, and where a sensor-type flush system is installed, a push button option must also be provided that is easy to find for people with visual impairment.

(Toilet paper holders)

C9-39 Individual toilet spaces accessible for ostomy bag users must have a separate paper holder that is positioned for easy use.

C9-40 Wheelchair-accessible individual toilet spaces must have a separate paper holder that is positioned for easy use with a single hand from a seated position.

G9-17 It is desirable for paper holders to be mounted on a side wall for all toilet facilities, as those built in to the wall are difficult for people with visual impairment to find.

(Equipment to communicate information in emergencies)

C9-41 Wheelchair-accessible individual toilet spaces must be equipped for emergencies with a call system with lamp to acknowledge response, an emergency call lamp mounted at the lavatory doorway, and an alarm panel fitted in the management facilities.

C9-42 The call button must be positioned at a low height on the wall to be reachable from a seated position and also after falling from a seated position.

C9-43 The call button must have a label in braille, clearly distinguishable from the flush button.

C9-44 Lavatories of facilities equipped with automatic fire alarm equipment must have a light-based alarm system such as a display system for showing letters or signs, flash lights, and rotary beacon lights installed in a position that can be sufficiently confirmed from all individual toilet spaces and provide information regarding emergency situations such as fires for all people, including those with auditory impairment.

(Installation of stands/shelves, etc.)

C9-45 Individual toilet spaces accessible for ostomy bag users must have a shelf, etc. for personal belongings.

(Provision of sanitary bins)

C9-46 Individual toilet spaces accessible for ostomy bag users must be equipped with sanitary bins.

(Large-sized bed) [See Figure 3.9.12]

C9-47 Wheelchair-accessible individual toilet spaces must be fitted with a large-sized bed.

C9-48 The size of large-sized beds must be approx. 600-800 mm in width and 1,500-1,800 mm in length, and there must be a sign regarding its presence posted at the doorway.

C9-49 Layout of the toilet cubicle must be such that a wheelchair user is able to approach the large-sized bed in its flattened-out position.

(Provision of flushing basin)

G9-18 It is desirable that individual toilet spaces accessible for ostomy bag users are equipped with

flushing basins fitted with a flush valve.

(Provision of changing platform/mirror)

G9-19 It is desirable that individual toilet spaces accessible for ostomy bag users are equipped with a changing platform and a large mirror (a flat mirror, approx. 1,000 mm in length, mounted at 700-800 mm above the floor).

(Provision of clothes hooks)

C9-50 Cubicles of wheelchair-accessible/ ostomy-bag-user individual toilet spaces must provide at least one clothes hook.

C9-51 In wheelchair-accessible individual toilet spaces, clothes hooks must be mounted at two different heights.

C9-52 Clothes hooks must be mounted at approx. 1,000 mm high for wheelchair users and approx. 1,700 mm high for others.

G9-20 It is desirable that at least two hooks are provided in individual toilet spaces accessible for ostomy bag users, one for clothes and the other for catheters.

(Principles for the installation of baby/ infant-related equipment)

C9-53 Baby chairs and diaper changing tables must be provided and labelled. Diaper changing tables may be installed outside individual toilet space.

C9-54 Baby chairs, diaper changing tables, and other auxiliary facilities that may restrict the passageway for a wheelchair must not be installed near doorways.

(Baby changing benches)

G9-21 It is desirable that diaper changing tables are approx. 800-850 mm tall, minimum of 700-750 mm clearance underneath and approx. 500 mm wide, equipped with measures to prevent babies from falling.

G9-22 It is desirable that due consideration is given in terms of the arrangement of equipment so that the baby/infant on the changing tables will not directly see the lighting.

(Provision of air conditioning equipment)

G9-23 It is desirable that wheelchair-accessible individual toilet spaces equipped with ostomy bag cleaning facility, large-sized beds, etc. are fitted with air conditioning equipment.

(Stands)

G9-24 It is desirable for general individual toilet spaces to be equipped with shelves for personal belongings.

C9-55 A stand for personal belongings must be provided in wheelchair-accessible individual toilet spaces that is reachable by a person in a wheelchair (including electric ones).

(Provision of liquid soap dispensers)

C9-56 Individual toilet spaces accessible for ostomy bag users must be equipped with liquid soap dispensers.

C9-57 Wheelchair-accessible individual toilet spaces must be equipped with liquid soap dispensers mounted at 700-1,200 mm above the floor.

3-9-7. Washing basin

(Positions of washing basin auxiliaries)

C9-58 Additional equipment for washing basins must be installed within the area approx. 800-1,000 mm above the finished floor level and within approx. 750 mm from the centre of the washing basin.

G9-25 It is desirable that each basin has all auxiliaries available to it.

G9-26 In addition to the standard type, it is desirable to provide another basin approx. 450 mm deep, mounted at approx. 650 mm above the floor (able to easily reach the water tap) for use by children, etc.

(Clearance under washing basin)

C9-59 Including all general individual toilet spaces, at least one (hand) washing basin must have leg space

underneath it to make it easily accessible to wheelchair users.

C9-60 Washing basins in wheelchair-accessible individual toilet spaces must have leg space underneath them (approx. 650 mm high, 550-600 mm deep) to make them accessible to wheelchair users. [See Figure 3.9.8]

(Positions of mirrors)

C9-61 If mirrors are installed with the washing basins in wheelchair-accessible individual toilet spaces, they must be positioned so that people other than wheelchair users can also use them.

C9-62 Mirrors in wheelchair-accessible individual toilet spaces must be installed in such a way that the lower edge is as close as possible to the top of the washing basin, and the mirror is approx. 1,000 mm tall. [See Figure 3.9.8]

(Arrangements for washing basins)

C9-63 At least one washing basin in a toilet facility must be equipped with handrails and a liquid soap dispenser.

C9-64 For wheelchair-accessible individual toilet spaces, the washing basin installed at 650 mm or higher must be mounted firmly on the wall or equipped with handrails, etc. so that the user can lean on it.

(Hand washing basins)

G9-27 It is desirable that wheelchair-accessible individual toilet spaces are equipped with a hand washing basin that can be used by a person in a wheelchair. [See Figure 3.9.2]

(Types of water taps)

G9-28 It is desirable for the water tap to be automatic, such as with a light sensor.

C9-65 Water taps must be an easy-to-operate lever-type or a hands-free sensor tap.

C9-66 Individual toilet spaces accessible for ostomy bag users must have a washing basin provided with warm water.

(Positions of water taps)

C9-67 Water taps for washing basins in wheelchair-accessible individual toilet spaces must be mounted in a position easily accessible for wheelchair users (300 mm max. deep from the front end of the basin). [See Figure 3.9.8]

(Paper towel dispensers)

C9-68 When installing a paper towel dispenser, it must be one that can be operated with a lever or hands-free, installed within approx. 750 mm from a washing basin (except ones on the opposite wall), mounted so that the operation mechanism and outlet are at approx. 800-1,000 mm above the floor.

(Drain taps)

G9-29 It is desirable that the horizontal type (P-trap) is used for drains.

3-9-8. Markings/information boards/labels

(Location indicator)

G9-30 It is desirable for each toilet facility to have, by its doorways, markings in pictogram in white against the entire entrance walls in black (navy blue) or red.

G9-31 It is desirable that these markings are placed at a height of 1,400-1,500 mm from the floor to the centre of the sign.

G9-32 If there are individual toilet spaces with specific features on other levels/locations, it is desirable that information about the location of these individual toilet spaces be provided near these spaces.

C9-69 Each toilet facility must have, by its doorways, markings in pictogram, etc. (being in contrast, with braille) indicating the sex the facility is intended for.

C9-70 Doorways or doors to individual toilet spaces with specific equipment and features must have pictograms, etc. indicating those features in an obvious manner.

C9-71 Wheelchair-accessible individual toilet spaces must be marked with the international symbol of access and must have labels in braille. (Use the phrase “Wheelchair-accessible individual toilet spaces”).

(Toilet location indicator)

C9-72 Tactile graphic boards or some other equipment (embossed lettering, auditory information) must be installed near the toilet facility doorway to inform people with visual impairment of the facility sex distinction, facility layout, specific features in the accessible cubicles, etc.

G9-33 It is desirable to provide a voice guide near the toilet facility doorway.

C9-73 Where a voice guide is provided, the voice must inform of the men's, women's or shared facilities.

G9-34 It is desirable that the toilet facility tactile graphic boards describe the specific features in the accessible individual toilet spaces and indicate their respective positions.

G9-35 Where tactile graphic boards are provided, it is desirable to install a voice information system to inform of their locations.

C9-74 Two textured floor tiles must be installed on the floor in front of the tactile graphic boards for the toilet facilities (except when a voice information system is provided).

C9-75 Where a guide for routes to toilet facilities such as guiding tiles are provided for people with visual impairment, it must lead to toilet facilities other than wheelchair-accessible individual toilet spaces.

G9-36 It is desirable that textured floor tiles are installed in front of urinals and doors of individual toilet space so that people with visual impairment know where they are positioned in toilet facilities.

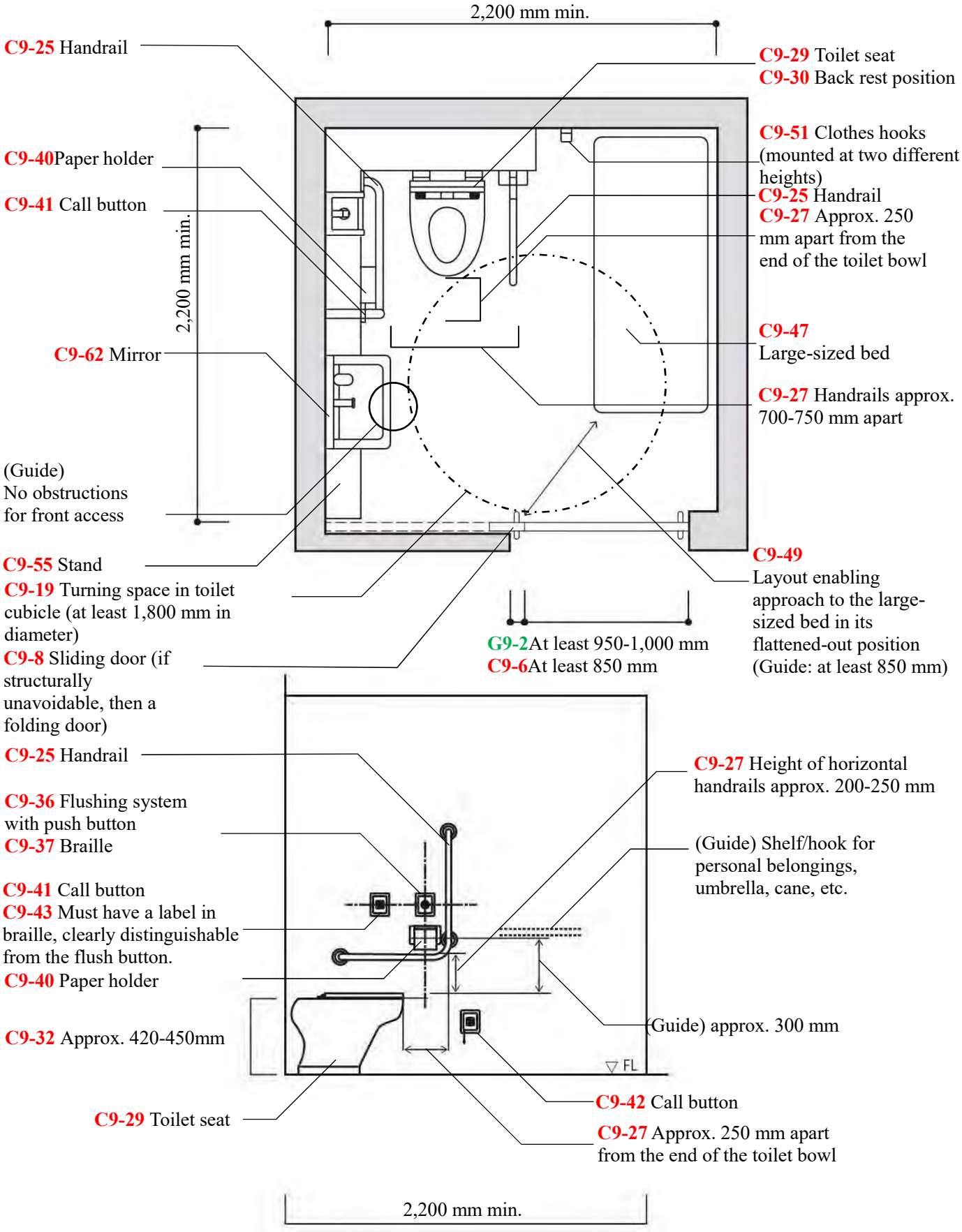


Figure 3.9.1 Illustration of design for wheelchair-accessible individual toilet space

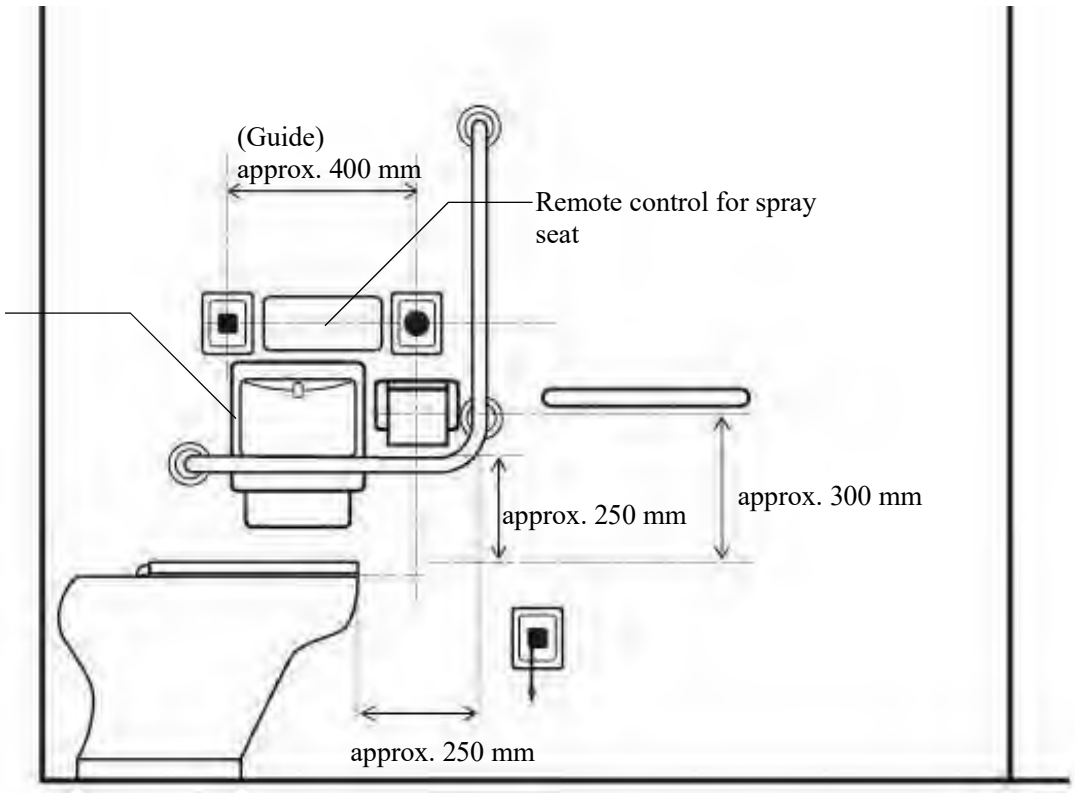


Figure 3.9.2 Illustration of design when installing a washing basin

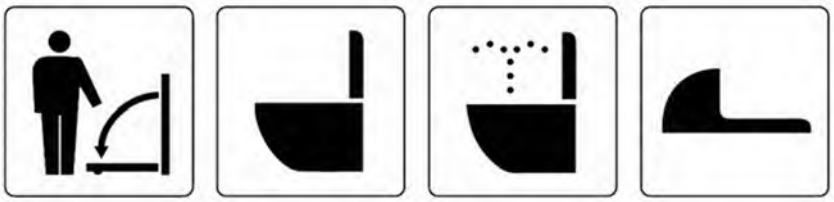
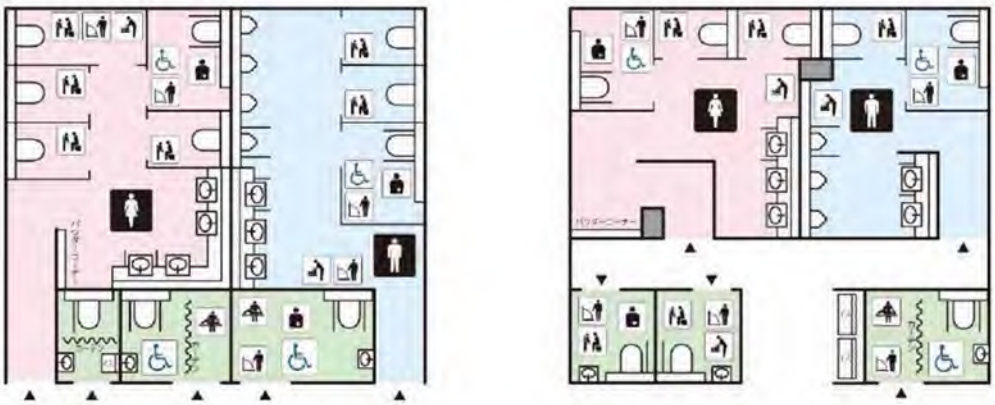
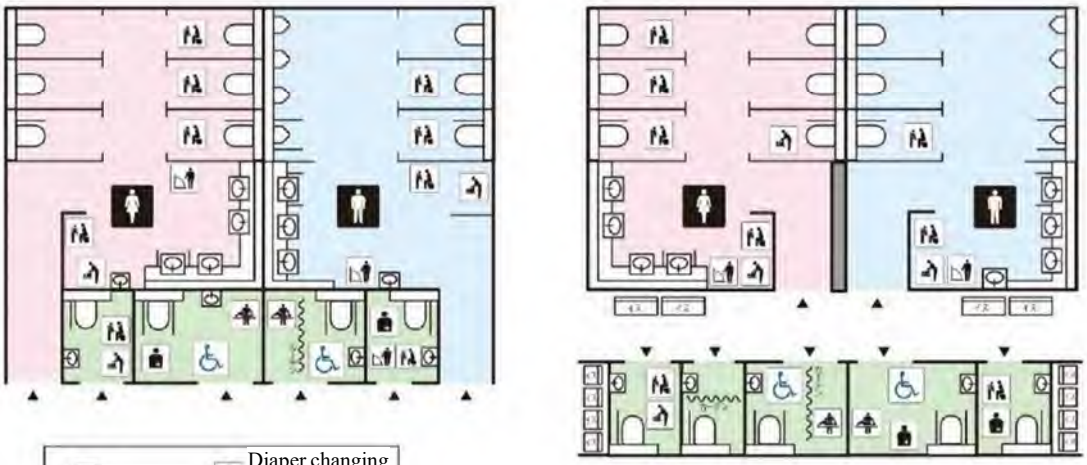


Figure 3.9.3 Examples of equipment (specific features) in individual toilet spaces

<Features dispersed between men's and women's toilets>



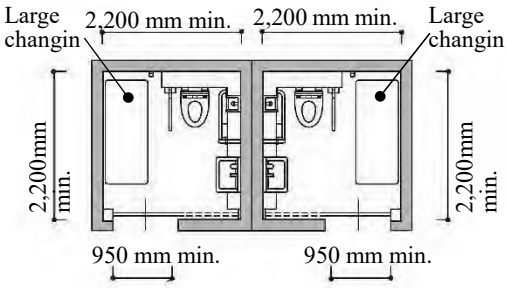
<Features dispersed among shared toilets>



Source: *Report on Research Conducted to Improve Conditions Surrounding Toilets in a Symbiotic Society* (March 2021)

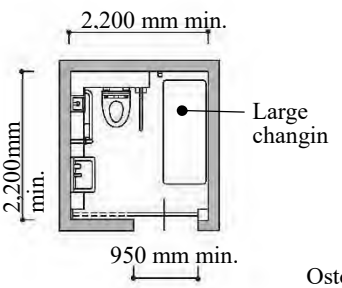
Figure 3.9.4 Features dispersed among men's, women's, and shared toilets

Toilet for wheelchair users designed with dominant hands in mind



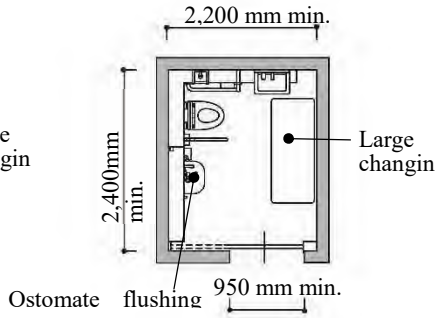
When installing two or more rooms, prepare a toilet next to them with a contrasting layout suitable for either dominant hand.

Toilet for large-sized bed and wheelchair users



Toilet for wheelchair users equipped with large-sized bed.

Toilet for large-sized bed, ostomy bag users, and wheelchair users



Toilet for wheelchair users equipped for ostomate and with large-sized bed.

Figure 3.9.5 Recommended size for wheelchair-accessible individual toilet space with additional specific features

C9-16
Lock system that can be operated easily such as a lever type

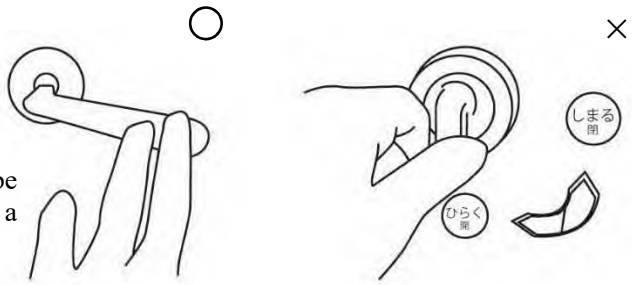


Figure 3.9.6 Lock system that can be operated easily

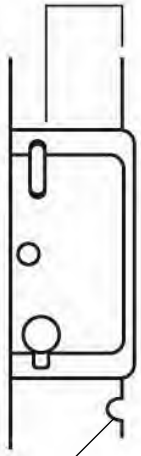
C9-36 Push button type

(Guide) Light sensor

Light sensors are difficult for people with visual impairment so push buttons must be added on

Figure 3.9.7 Flushing system that can be operated easily

C9-67 300 mm max.

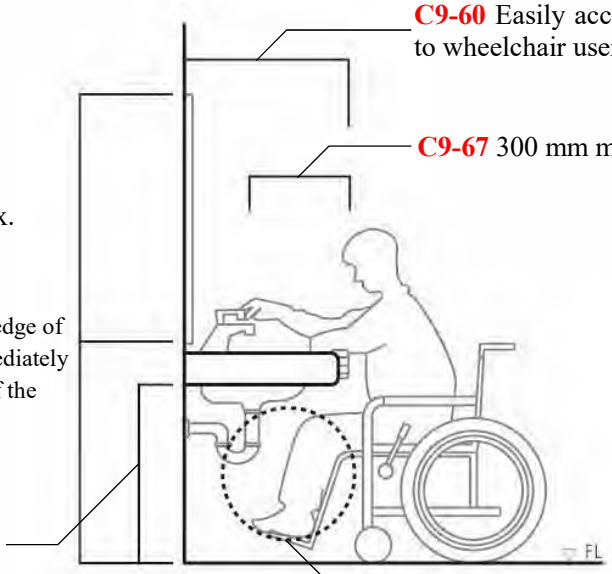


(Guide) An indent for resting an umbrella, cane, etc.

C9-62
Mirror approx. 1,000 mm

C9-62 Bottom edge of the mirror immediately above the top of the washing basin

C9-60
Approx. 650 mm



C9-60 Easily accessible to wheelchair users

C9-67 300 mm max.

C9-60
Approx. 550-600 mm deep

Figure 3.9.8 Washing basin easily accessible for wheelchair users

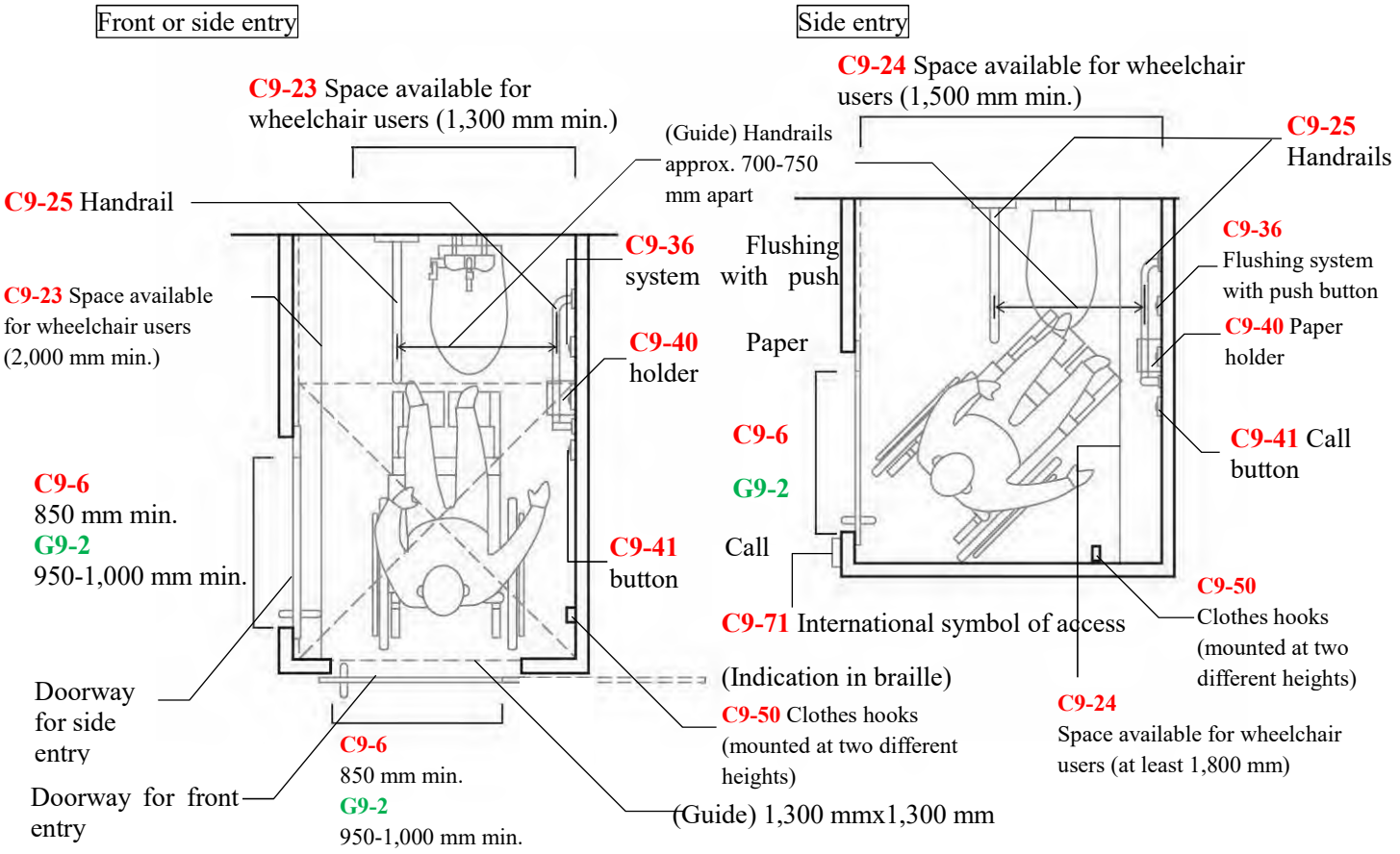


Figure 3.9.9 Illustration of minimal wheelchair-accessible individual toilet spaces

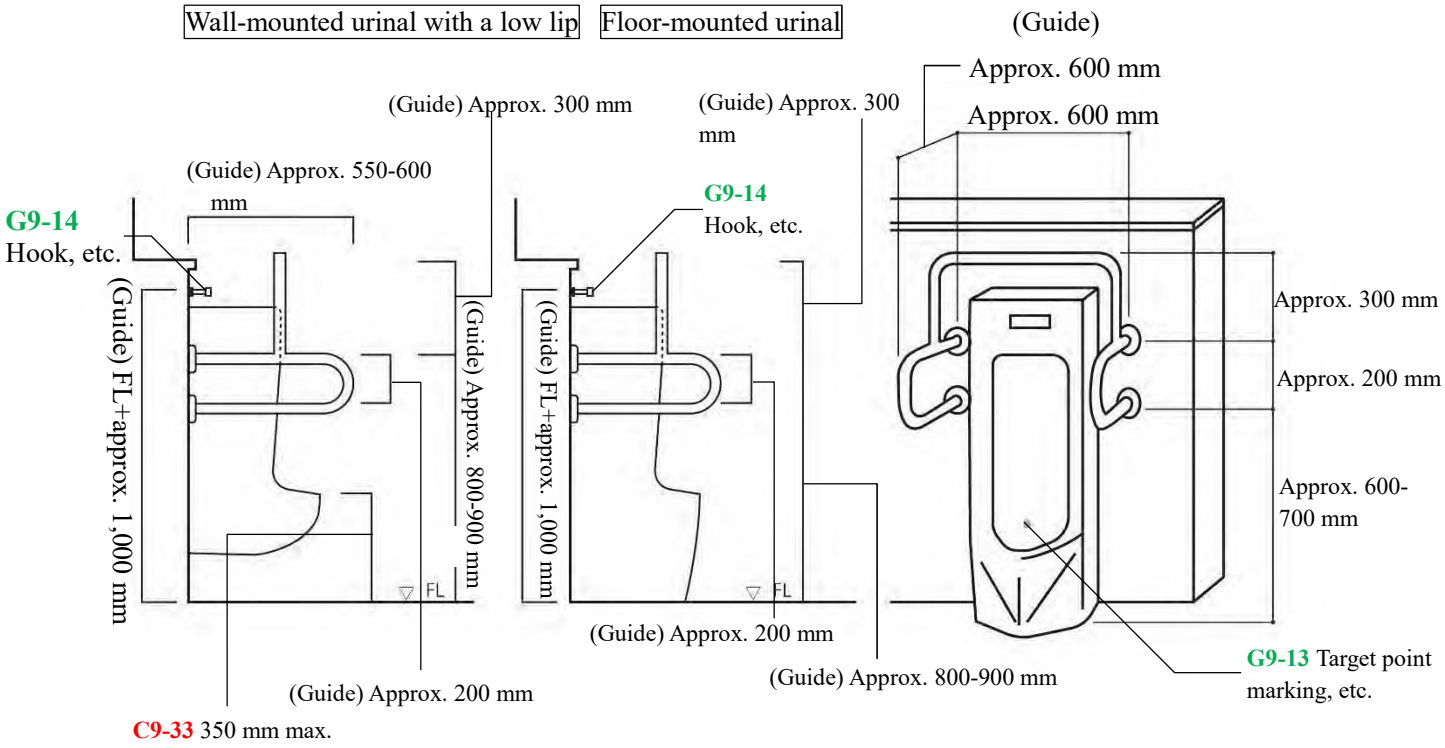


Figure 3.9.10 Urinal

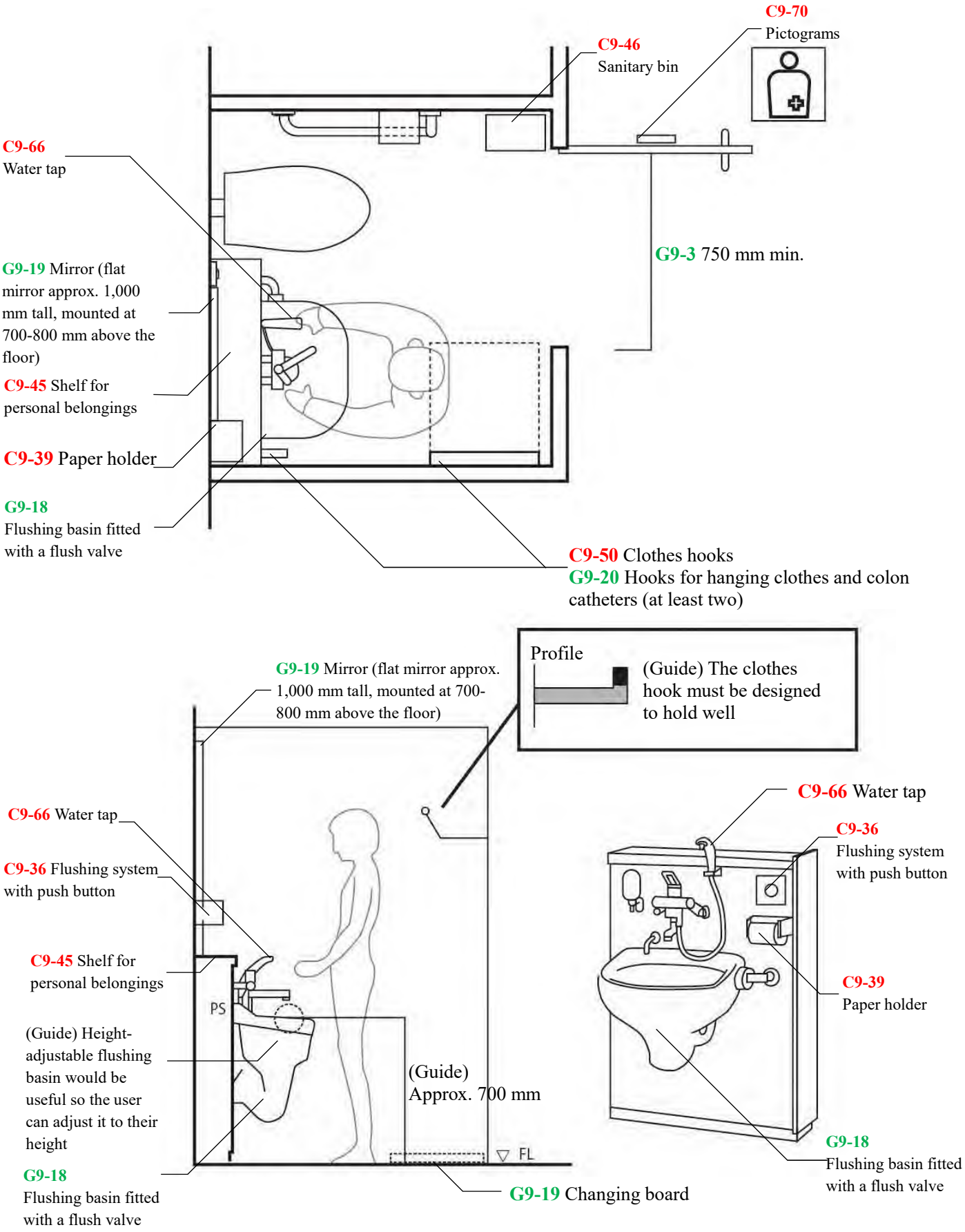


Figure 3.9.11 Individual toilet space accessible for ostomy bag users

- Attention: dimensions, load capacities, etc. may differ between large-sized beds for adult use and diaper changing tables.

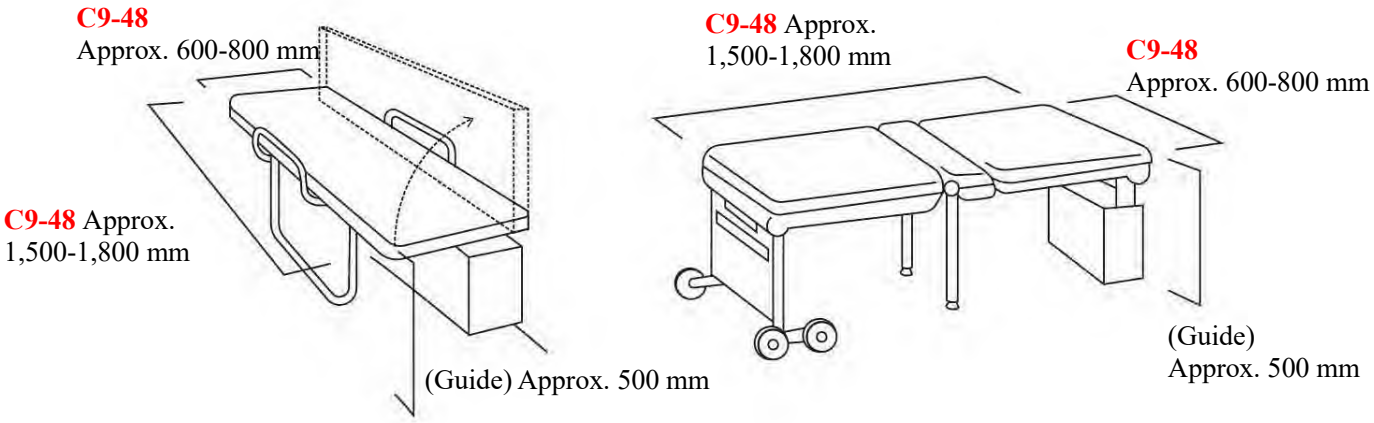


Figure 3.9.12 Large-sized beds

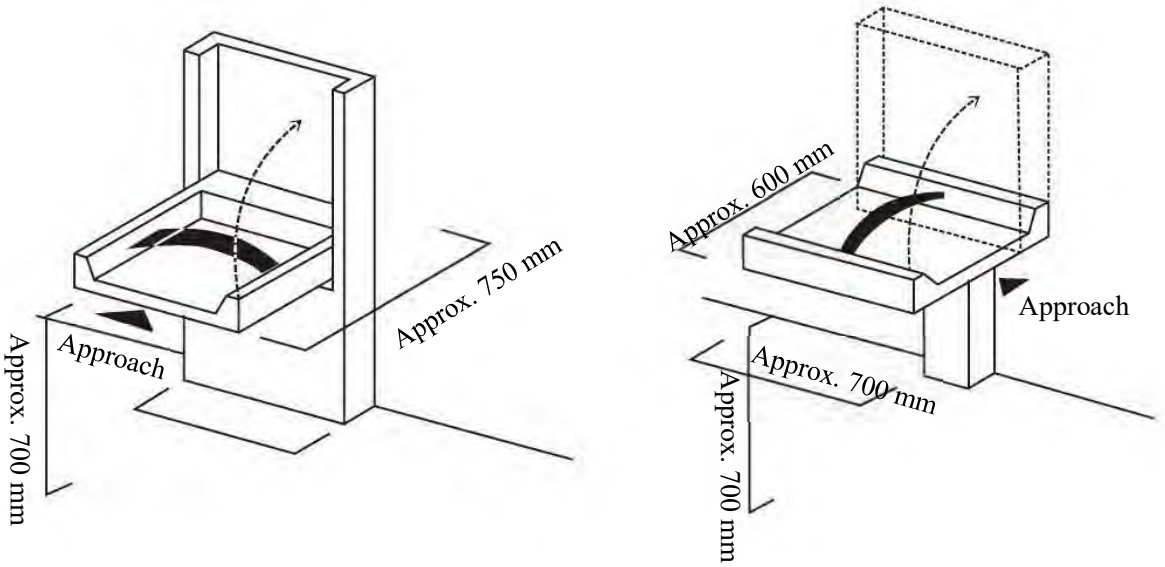


Figure 3.9.13 Diaper changing tables

3-10. Auditorium

The Expo Site will house many facilities for many people to enjoy a variety of offerings. In particular, the auditoriums visited by a large number of people at once must be designed taking into consideration the number and positioning of seats, passage widths, route formation, equipment in auditorium, etc. so that all visitors can have a good time in a safe and comfortable manner.

People with auditory and visual impairment are often disregarded during the design process for facilities so it is necessary to keep in mind the needs of users when shaping facilities.

3-10-1. General guidelines

C10-1 All routes leading to the auditorium and stage must be accessible, including the backstage area.

C10-2 For the auditorium, doorways, lobbies, routes leading to accessible seats, toilets, rest areas, stage, etc. must all be planned in an integral and continuous manner.

3-10-2. Wheelchair accessible seats

(Number/proportion of seats, locations)

G10-1 It is desirable to secure the necessary number of wheelchair-accessible seats and to position seating space that enables group use by wheelchair users and a selection of locations to choose from.

G10-2 If an auditorium is less than approx. 200, a flat floor seating style is desirable for users to freely choose a seating location.

G10-3 It is desirable that seating space that is movable be provided in addition to fixed seating space for wheelchair-accessible seating.

C10-3 The proportion of wheelchair accessible seats must be 2% for venues less than 200 seats (min. 2 seats), and 1%+2 seats or more for venues with 200 seats or more.

C10-4 Wheelchair-accessible seats must be located in a dispersed manner in 2 or more different areas (different levels and horizontal locations) for wheelchair users to choose from. Except, however, where seating is less than four or a similar situation.

C10-5 Each location with wheelchair-accessible seats must have dedicated space to accommodate 2 or more wheelchair users at the same time.

(Securing accessibility)

C10-6 The route from doorways to wheelchair-accessible seats must be accessible for wheelchair users. A slope must be installed for any level changes. (See 3-5. Slopes regarding the slope gradient.)

C10-7 Effective width for passageways leading to seating accessible to wheelchair users must be at least 1,200 mm, and wheelchair turnaround space at least a 1,400 mm square.

(Number and width of seats for assisting companions)

C10-8 Seats for assisting companions of wheelchair users must be in the same proportion as the wheelchair accessible seats.

C10-9 Seats for assisting companions must have same specifications as general seats.

(Size)

C10-10 A wheelchair accessible seat space must be at least 900 mm wide and 1,400 mm long minimum.

C10-11 Space surrounding a wheelchair accessible seat must be large enough for easy wheelchair passage and turnaround (at least a 1,400 mm x 1,400 square).

(Floors)

C10-12 Floors for the seats must be horizontal and be finished to be slip-resistant.

C10-13 Guard rails and kerbs to prevent a wheelchair from running off the path must be installed where there are fall hazards. In that case, space must be designed to allow both wheelchair user and assisting companion to be comfortable.

(Provision of electrical outlets)

C10-14 Electrical outlets must be installed, one for every five fixed wheelchair-accessible seats indoors, for recharging electric wheelchairs.

(Sightlines for wheelchair-accessible seats)

C10-15 Good sightlines must be ensured for all wheelchair-accessible seats. If there is the possibility of

spectators in the front rows standing up during a performance, level changes must be made accordingly or seats should be shifted among the rows.

C10-16 It is desirable that guard rails, handrails, etc. are no higher than 800 mm so they do not obstruct sightlines.

G10-4 It is desirable for sightlines to be secured using eye height of lower primary school students using wheelchairs (700-800 mm).

3-10-3. General seats

(Armrest types)

G10-5 It is desirable that the armrests of isle-side seats can be flipped up or turned sideways.

(Seat number display)

G10-6 It is desirable for row and seat numbers to be displayed with easy to see fonts (such as the UD font) alongside braille based on the JIS-T-0921 guidelines.

(Enhanced amenity seats/space)

G10-7 It is desirable that enhanced amenity seats (for those with mobility constraints using an aide such as a cane except wheelchair users, people with an assistance animal, oversized people, etc. who require more space than ordinary seats) are provided to account for 1% minimum of the total seat number.

G10-8 It is desirable to ensure there is approx. 500 mm of space on the side of an enhanced amenity seat.

(Arrangement for people accompanying babies/infants or people with auditory and visual impairment.

G10-9 For the accessibility of people accompanying babies/infants, etc., it is desirable to provide a separate auditorium so as not to disturb other visitors.

G10-10 It is desirable to gain the opinions of those directly involved so that sensor rooms and calm down/cool down rooms can be designed and positioned with visitors' flowlines and behavioural patterns in mind.

C10-17 Calm down/cool down rooms (individual rooms or space) must be provided where visitors can calm themselves in facilities where a large number of visitors gather in a large space and where stimulation from sound, lighting, and images may be strong. (See 3-11 for necessary features)

C10-18 So that various people including people with difficulty obtaining information aurally and visually can enjoy performances through various means, equipment (such as hearing loops) and space necessary to conform with provisions in guidelines formulated separately for exhibitions and events must be provided.

C10-19 Display must be provided that indicates availability of equipment for access to information.

3-10-4. Vicinity of steps in auditorium

Arrangements at the top and bottom areas of steps

C10-20 The floor at the top and bottom of stair flights in the auditorium must be marked with textured floor tiles.

G10-11 It is desirable for nosing of steps to be in contrast from the tread through noticeable differences in colour brightness, hue, and saturation so that steps are easily distinguishable, and for foot lights to be installed.

G10-12 It is desirable for components and parts to be installed that act as handrails and grab bars to prevent tripping and falling down along vertical passages.

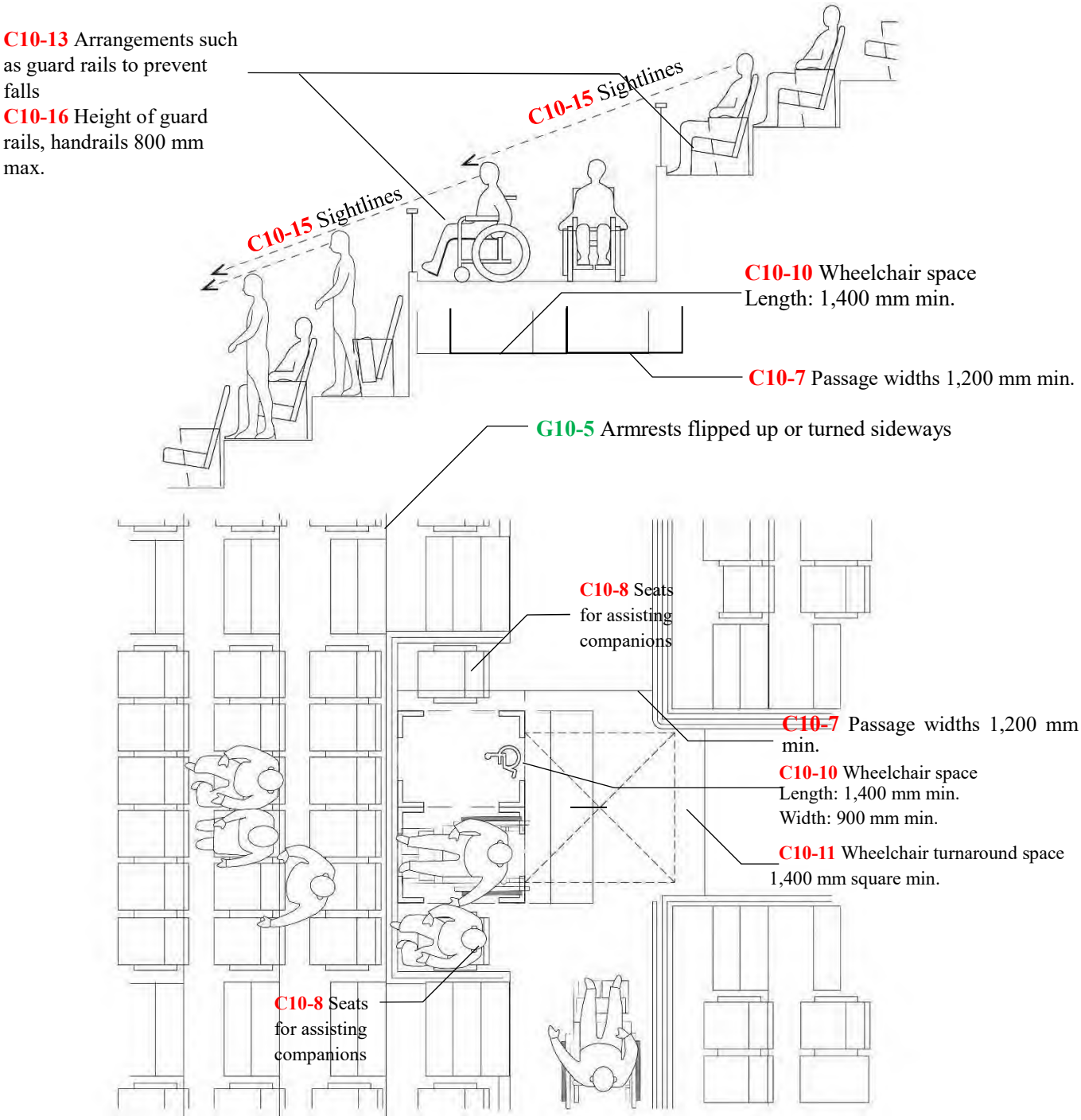
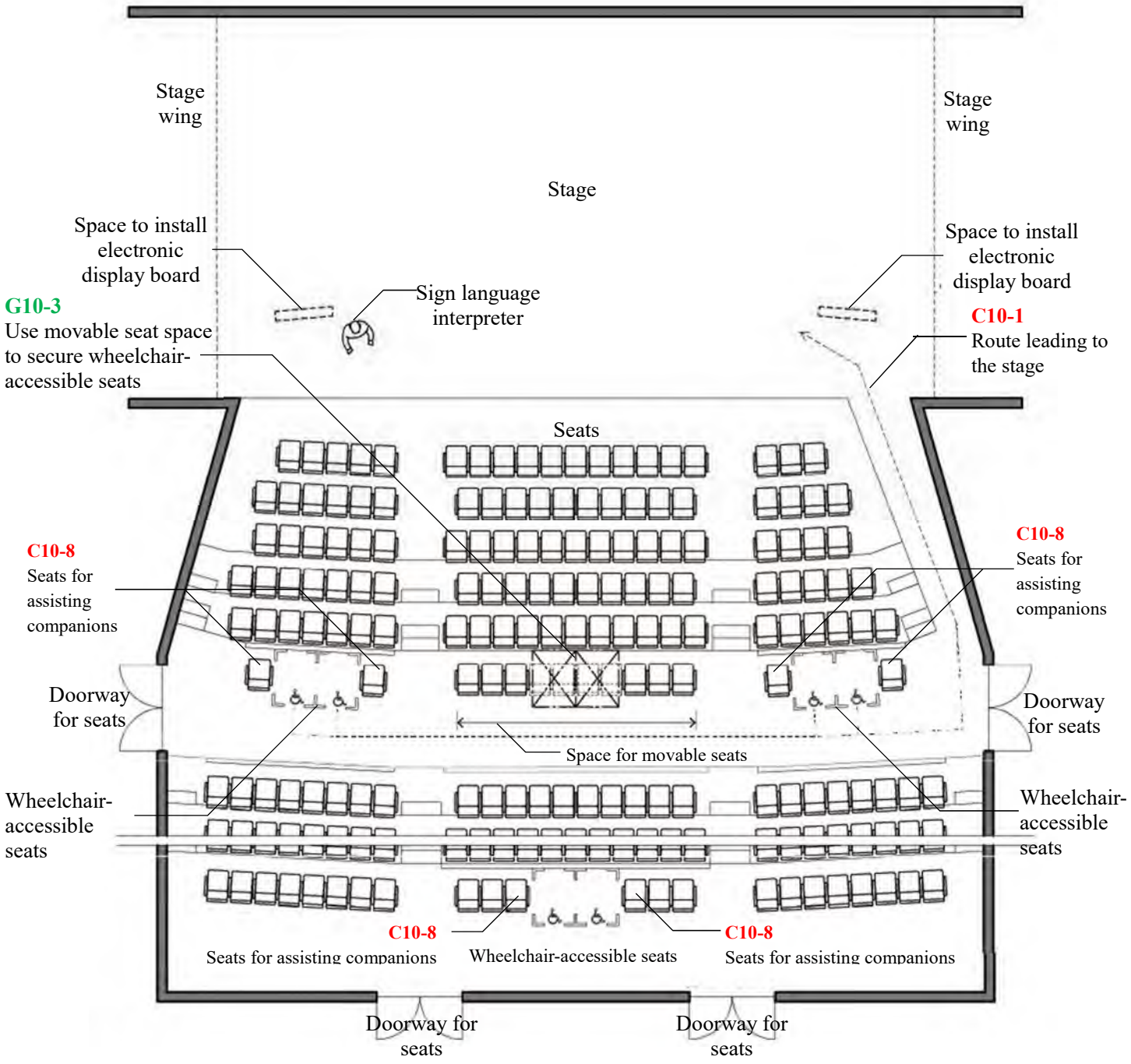


Figure 3.10.1 Auditorium/seats

<Illustration of auditorium/seats and the stage>



Source: *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities* (March 2021)

Figure 3.10.2 Illustration of auditorium/seats and the stage

3-11. Calm down/cool down rooms

Calm down/cool down rooms are necessary as facilities for a person who is prone to panic when feeling anxiety or fear over crowds, sound, lighting and other external stimulation, to feel comfortable visiting and enjoying the Expo. To do so, it is desirable for such facilities to be planned and designed keeping in mind the need to incorporate the following objectives.

- Function in allowing users to enjoy exhibits and other venues at their own pace and desired manner
- Features that will help users avoid panicking or calm them down when panic sets in

(Location)

G11-1 For facilities where a large number of visitors gather in a large space and where stimulation from sound, lighting, and images may be strong, it is desirable to provide a space where lighting is not too bright, sound is insulated, crowds and looks of others can be avoided for users to feel safe, and performances can be enjoyed through soundproof glass (sensor room).

G11-2 It is desirable to gain the opinions of those directly involved so that sensor rooms and calm down/cool down rooms can be designed and positioned with visitors' flowlines and behavioural patterns in mind.

C11-1 Calm down/cool down rooms (individual rooms or space) must be provided where visitors can calm themselves in facilities where a large number of visitors gather in a large space and where stimulation from sound, lighting, and images may be strong.

(Necessary features and equipment)

C11-2 Sensor rooms as well as calm down/cool down rooms require the following features.
- Shading and sound insulation must be ensured
- Walls must be made from soft material (prepare buffering against collision)
- Lighting must be equipped with brightness adjustment and light distribution feature
- Security (locks, alarms for emergencies, etc.) must be fully in place

G11-3 It is desirable that equipment to display the time, chair to sit in and relax, water dispensing equipment, and vending machines are provided.

G11-4 To respond to various needs, it is desirable for diverse and multiple rooms for resting and space to be provided for users to choose from according to their own pace and preference.

G11-5 To be equipped for overcrowding, it is desirable for calm down/cool down rooms to be prepared as movable and soundproof.

G11-6 It is desirable for calm down/cool down rooms to be large enough to accommodate assisting companions who require use of the room.

3-12. Food service/retail vendor areas (cafeterias, restaurants, retail vendors, etc.)

If there are areas within facilities serving food such as cafeterias, restaurants, and areas where retail vendors sell souvenirs, etc., necessary arrangements must be made within the area for easy access by all people including the elderly, people with disabilities, etc. Matters for consideration will be noted here for doorways, passageways, counters, and seats of store areas to ensure moving around, getting seated, shopping, communicating, and payment transactions in the food and shopping zones are smooth for the users.

3-12-1. Doorways

(Effective widths)

G12-1 It is desirable to have at least 950 mm of effective width for doorways.

C12-1 Effective width for doorways must be at least 850 mm, and there must be no level changes by the doorways.

(Doors)

C12-2 When doors are installed in store entrances or along the main route of stores, they should be structured so as to make passing through them easy for wheelchair users, such as incorporating automatic doors.

C12-3 Any door of an entrance must be the sliding type.

(Eaves, etc.)

G12-2 For small-scaled stores and the like built outdoors and serving customers outsides, it is desirable to install an eave or shade.

3-12-2. Passageways within an area

(Widths)

G12-3 It is desirable to have at least 1,800 mm of effective width for passageways in consideration of the flow of people.

C12-4 Effective width for passageways must be at least 1,200 mm, and products or signage must not be placed along passageways.

C12-5 Level changes must be kept to a minimum within store areas and a slope must be installed for any level changes that are present. (See 3-5. Slopes regarding slopes.)

Width of passageways between tables

C12-6 Space between tables along a main passageway must be at least 900 mm, and tables and chairs must be movable wherever possible to allow people to move between the tables.

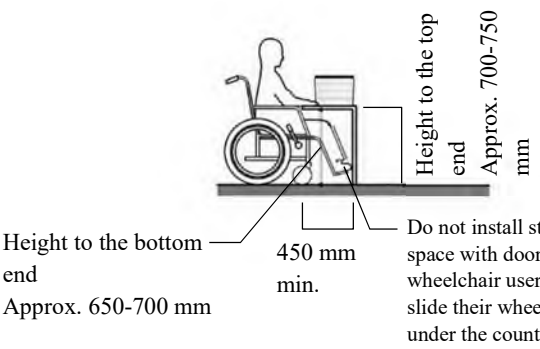
C12-7 Space that is at least a 1,400 mm square must be appropriately secured along passageways to allow easy turnaround for wheelchairs.

3-12-3. Bagging counter

(Height of bagging counter)

C12-8 When installing bagging counters (where users bag their purchased items) so that people including wheelchair users, the elderly, and those with disabilities have access to them, they must be approx. 650-700 mm from the floor to the bottom end and approx. 700-750 mm to the top end, and space below the counter must be at least 450 mm deep.

<Design illustration>



- Bagging counter
(Height to the top end: 720 mm, to the bottom end: 680 mm)

Source: *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities* (March 2021)

Figure 3.12.1 Example of a bagging counter

3-12-4. Counter with tray slides

(Height)

G12-4 It is desirable that a counter with tray slides is approx. 700-800 mm above floor level.

C12-9 In consideration of people who cannot sit at high counters such as wheelchair users or those who cannot use bar height chairs, counter seating must have low counter space that is able to accommodate wheelchairs as much as possible. (See 3-18-2 for wheelchair-accessible counters)

(Depth)

G12-5 It is desirable that a counter with tray slides is 300 mm deep.

(Clearance under the counter)

G12-6 It is desirable for a counter with tray slides to have approx. 650-750 mm above floor level for knee-high clearance.

(Styles)

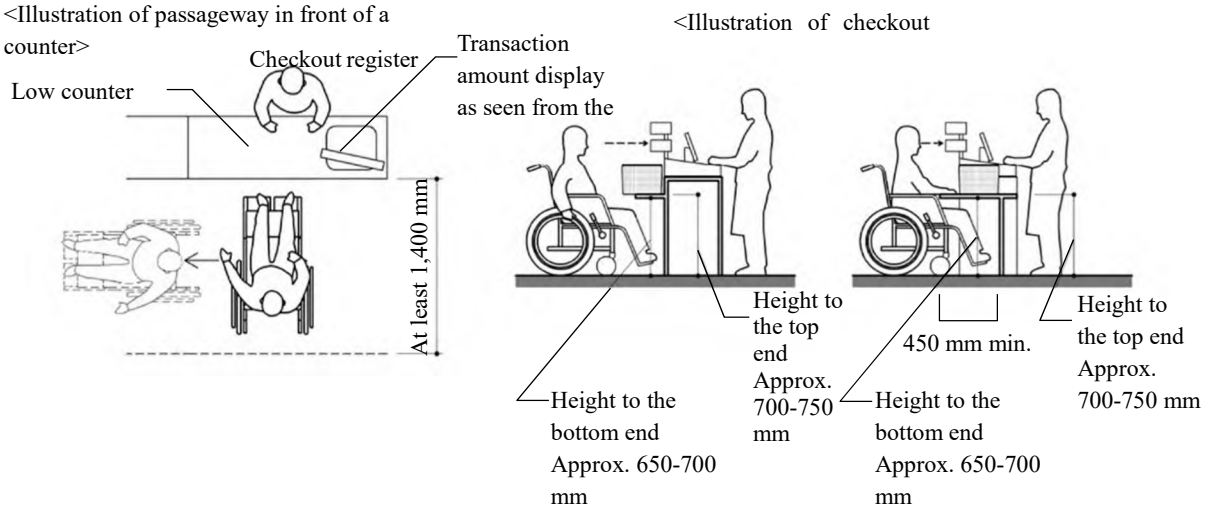
G12-7 For counters with tray slides, it is desirable for distance from the point a tray is taken to the payment transaction location to be a continuous route.

3-12-5. Payment counter

C12-10 For retail stores, when there are multiple checkout counters, or if the store only has unmanned checkout machines (self-checkout machine: cash register with which customers scan barcodes on products themselves and complete payment), then in addition to standing-style machines, at least one machine must be provided with a low counter that the elderly and those with disabilities can use.

C12-11 Machines with low counters that the elderly and those with disabilities can use must be approx. 650-700 mm from the floor to the bottom end and approx. 700-750 mm to the top end, and space below the counter must be at least 450 mm deep.

C12-12 Areas where employees and visitors come face to face, such as checkout and information counters and display cases, must have passageway width of at least 1,400 mm. If there is any floor area or structural limitations and it is unavoidable, then the width must be at least 1,200 mm.



Source: *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities* (March 2021)

Figure 3.12.2 Illustration of checkout counter

3-12-6. Condiments counter

(Height)

C12-13 Machines with low counters that wheelchair users can use must be 650-700 mm from the floor to the bottom end, 700-750 mm to the top end, and space below the counter must be at least 500 mm deep.

(Widths)

G12-8 It is desirable for the width to be approx. 750 mm.

(Free countertop space)

G12-9 It is desirable that the countertop has a clear space of 300 mm x 300 mm.

(Depth)

G12-10 It is desirable that condiments are arranged within 600 mm (length) from the counter front edge.

3-12-7. Tables, seating, product shelves

(Location)

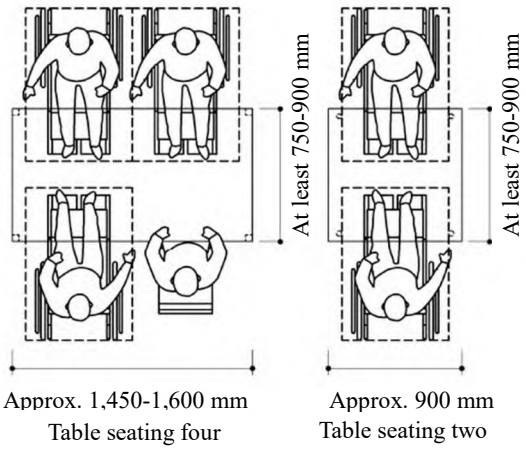
C12-14 When arranging tables and chairs, the overall layout must be designed with table size and passageway width that are based on access by wheelchair users.

(Shapes and sizes of tables)

G12-11 It is desirable for tables to have sizes and shapes as follows based on access by wheelchair users.
Table seating four: approx. width 1,450-1,600 mm x length 750-900 mm
Table seating two: approx. width 900 mm x length 750-900 mm
Height to the bottom end for all tables: approx. 650-700 mm
Height to the top end: approx. 700-750 mm

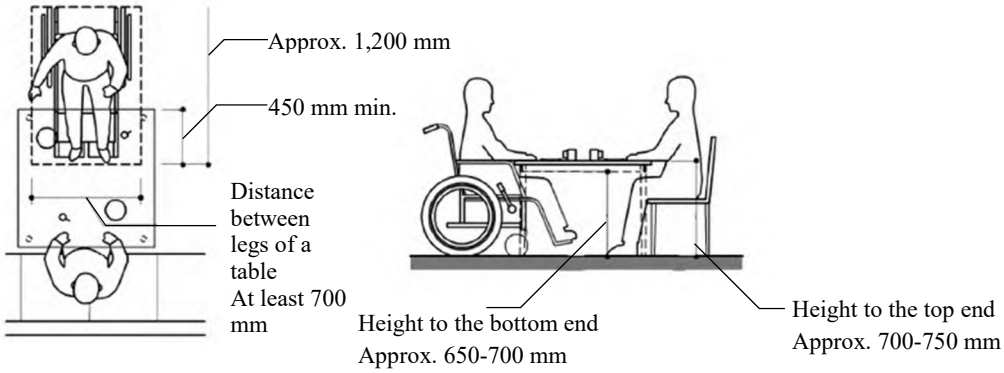
G12-12 It is desirable for tables at restaurants to have legs on four corners and be separate from chairs.

G12-13 For round tables in a restaurant with a central pillar leg, it is desirable for space between the edge of the table to the main part of the pillar to be 500 mm apart.



Source: *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities* (March 2021)

Figure 3.12.3 Example of table size



Source: *Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities* (March 2021)

Figure 3.12.4 Illustration of a movable chair

(Number of seats)

C12-15 Seats accommodating wheelchair and pram users must be provided in an amount necessary for seating in store areas. In that case, seats must be situated in several locations keeping in mind use by caregivers, assisting companions, and two or more wheelchair users.

(Styles of chairs)

G12-14 It is desirable for all chairs to be movable in consideration of wheelchair users.

C12-16 If providing fixed chairs, movable chairs must be available in an amount that is more than half the entire number of seats.

G12-15 It is desirable for chairs to have armrests, a backrest, and leg room under the seat at least 1/3 of the seat depth.

(Product shelves, etc.)

G12-16 It is desirable for product shelves to be of a height and depth that makes it easier for wheelchair users to choose and reach for products laid out on the shelves.

3-13. Notices (signage)

Notices (signage) refer to information symbols (pictograms) and accompanying text on display used to indicate the usage of specific rooms or entire space, routes, etc. They have an advantage of being easily comprehended by people with disabilities, children, etc. by virtue of using symbols rather than letters. It is necessary, therefore, to appropriately place signs in clearly visible positions to ensure that information is communicated.

3-13-1. General guidelines

(Locations)

C13-1 Signs must be posted to indicate that passenger lifts or other types of transfer means as well as toilet facilities are in the buildings, and the signs are located prominently on a wall close enough to be easily seen and clearly recognisable from the passageways.

G13-1 It is desirable for signs that emphasise a specific area such as toilets to be easily perceived even in a crowd, by being installed on a door of an entrance at a height of 2,500 mm above the floor. It is also desirable that these signs are placed on a wall at a height of 1,400-1,600 mm from the floor in consideration of people with low vision.

(Sign specifications)

C13-2 Signs must be easily identifiable (compliant with JIS Z8210 standards), and there must be distinct contrast between colours in figures and base colours (colour brightness at least 5 on the Munsell colour chart system between values 0 to 10).

C13-3 When using information symbols (pictograms) and figures, add accompanying text on display.

G13-2 It is desirable for information symbols to be compliant with JIS Z8210 standards in principle, and for information symbols (pictograms) not subject to JIS Z8210 to be in line with the Public Information Symbols Guideline 2021 (Foundation for Promoting Personal Mobility and Ecological Transportation) and to use standardized information symbols (pictograms).

(Size of notices/letters)

G13-3 It is desirable for size of notices to be based on visual range, as follows.

Visual range	Size of notice
L < 7 m	60 mm×60 mm
7 m < L < 18 m	110 mm×110 mm
L > 18 m	200 mm×200 mm

G13-4 It is desirable for size of letters to be based on visual range, as follows.

Visual range	Japanese text size	English text size
30 m	At least 120 mm	At least 90 mm
20 m	At least 80 mm	At least 60 mm
10 m	At least 40 mm	At least 30 mm
4-5 m	At least 20 mm	At least 15 mm
1-2 m	At least 9 mm	At least 7 mm

(International symbol of access)

C13-4 The international symbol of access must be displayed in dark blue and white, or black and white.

G13-5 It is desirable that the international symbol of access is larger than a 100 mm square but less than a 450 mm square.

3-14. Guiding tiles and other assistance for people with visual impairment

Standards are established here for routes to guide people with visual impairment from off-site locations to information equipment, as well as basic principles and specifications for guiding tiles for people with visual impairment.

Site designs must take into consideration the characteristics of people with visual impairment, that they rely on sounds, traffics of people, winds, tactile sensation, etc. Whether or not leading to information equipment, routes are preferably equipped with an effective combination of guiding tiles and other assistance for people with visual impairment, voice guide, guiding chimes, etc.

If points cannot be established in a uniform manner, it is desirable for the opinions of those directly involved to be put into consideration in planning the locations.

3-14-1. Routes to guide people with visual impairment (routes leading to information equipment)

(Provision of guiding equipment)

C14-1 Notices or other equipment must be provided in a building or other on-site location displaying locations of lifts, other means of vertical mobility, toilet facilities, and other universal service facilities of that building. (Except, however, where information points are provided in the vicinity of plot boundaries).

C14-2 Dot/line-type textured floor tiles, voice guide system, and other equipment to guide people with visual impairment must be installed on the paths leading from the plot boundary to main information equipment or information points installed near building entrances (except entrance enclosures in which no turnings are involved).

G14-1 It is desirable to provide guiding equipment to lavatories, lifts, major rooms of frequent access, etc. by installing guiding tiles and other assistance for people with visual impairment combined with other paths made of different material and having no protrusions, human support, ICT utilization, etc.

G14-2 It is desirable to have combined dot- and line-type textured floor tiles installed to information equipment other than the ones mentioned above (including tactile graphic boards installed in toilet facilities and floor maps for each of the levels).

3-14-2. Guiding tiles for people with visual impairment

(Routing guidelines)

G14-3 It is desirable in principle that the guiding tiles are laid down in straight lines, no curves, and turnings are right angles.

G14-4 It is desirable that guiding tiles are laid on the main footpath routes so that people with visual impairment do not have to walk longer distances unnecessarily.

G14-5 It is desirable that textured tiles, etc. are not interrupted by drain box covers, etc. along on-site passageways.

(Shapes and sizes of tiles)

G14-6 It is desirable that the tiles are a 300 mm square.

G14-7 It is desirable that the shapes, sizes, and arrangements of the tiles comply with the JIS T9251 standards.

(Colours)

G14-8 It is desirable that the luminance ratio of guiding tiles for people with visual impairment is 3.0:1 against the adjacent floor/ground surface finish, and luminance contrast of 50% so that it is easily distinguishable for people with low vision.

G14-9 So as to avoid confusion among users with different coloured guiding tiles for people with visual impairment, it is desirable that the colour of the tiles is consistent in all locations.

C14-3 Guiding tiles and other assistance for people with visual impairment must be yellow in principle, and the luminance ratio must be at least 2.0:1 against the adjacent floor/ground surface finish.

(Positioning)

C14-4 Textured tiles must be installed on the points just before direction changes are necessary such as where there are potential hazards.

G14-10 It is desirable that dot/line-type textured tiles are laid down at least 300 mm away from, and along the entire length of, hazards.

(Arrangements for the elderly and wheelchair users)

G14-11 It is desirable that plans for the installation of guiding tiles for people with visual impairment takes into account the arrangements for the elderly and wheelchair users by leaving sufficient room for these people's safe and easy passage.

G14-12 If indoors, a guiding mat can be used as guiding equipment in place of dot/line-type textured tiles.

In addition to the above, refer to the following regarding installation methods for the various unit spaces: 3-2. Doorways: 3-3. Corridors, etc.; 3-4. Stairways; 3-5. Slopes; 3-6. Passenger lifts; 3-7. Escalators; 3-8. Platform lifts; 3-9. Toilet Facilities.

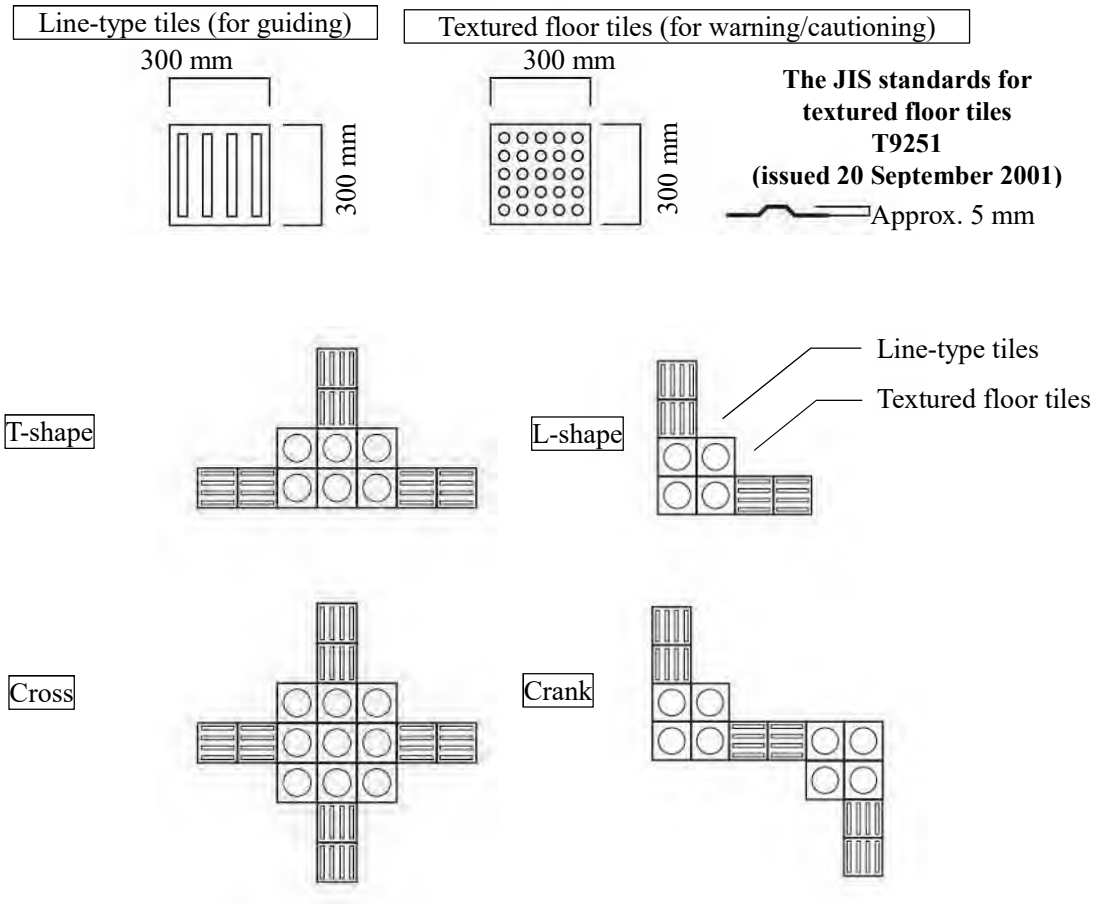


Figure 3.14.1 Guiding tiles for people with visual impairment (guide)

3-15. Areas for waiting/queueing

If queues are anticipated, it is necessary to put into consideration arrangements for the queueing and waiting spaces to ensure everyone, including the elderly and people with disabilities, are able to queue safely and move along smoothly. In addition to consideration of widths of passageways for queueing, placing trees for shade against the heat, and roofs / benches for resting, design arrangements are desired to secure adequate space

between people and fast tracks for shorter waiting times as measures to protect people who face physical and emotional difficulty when queueing for long periods, etc.

(Provision of a fast track)

G15-1 It is desirable that a fast track is provided for the elderly, people with disabilities, pregnant people, people accompanying babies/infants, etc.

(Information about waiting times for facilities)

C15-1 Auditory and visual displays about the approximate time for waiting before entering the facilities must be provided.

(Effective width of queueing lane)

C15-2 Lanes in the queueing area must be approx. 1,500 mm wide.

(Maximum gradients of floors)

G15-2 It is desirable that the floor of a queueing area is horizontal or, if sloping, the gradient does not exceed 2%.

(Equipment for resting and shades)

C15-3 If queues require standing, install resting equipment such as benches to alleviate physical and emotional burden of the elderly, people with children, children, people with disabilities, etc. that are adequate for the type of queues.
For example,
- if queueing is expected to be longer than 50 m in length, install equipment at the 50 m location.
- if queue is a zigzag, install equipment at the U-turn location ensuring it does not obstruct those waiting in line.

G15-3 It is desirable that shades are provided in the queueing area.

(Ensuring identifiable arrangements)

C15-4 Queueing areas must be clearly designated with distinct colour markings, using ropes, bars, partitions, etc. to differentiate lanes from surrounding areas.

3-16. Baby care rooms

Baby care rooms refer to private booths for the care of babies and infants such as feeding babies, feeding infants, and changing diapers. The following points must be put into consideration in the location and securing of space for the rooms.

- Facilities used by people accompanying babies/infants must have space for feeding babies, both breastfeeding and with a baby bottle.
- Space for feeding babies must be closed-off space.
- Structure of the space for feeding babies and equipment arrangements etc. in these structures must account both for male and female users feeding babies with a baby bottle.

3-16-1. Provision as a principle

C16-1 In a facility with a total floor area of 5,000 m^2 or more, at least one baby care room must be provided.

G16-1 Even in a facility with a total floor area less than 5,000 m^2, it is desirable for a baby care room to be provided depending on the purpose and type of usage of the facility.

3-16-2. Doorways

(Styles)

C16-2 Width and style of doorways must put the use of prams into consideration. (See 3-2. Doorways)

(Approach to the facilities)

C16-3 There must be no steps to be an obstacle to passage.

(Installation of signs)

C16-4 Signs must be installed by the doorway to indicate that the equipment such as baby chairs and diaper changing tables are provided, together with their layouts, and this information must be also available in braille.

3-16-3. Space for feeding babies

(Ensuring privacy of breastfeeding mothers)

C16-5 Space must be closed off in consideration of privacy for breastfeeding. Privacy must be ensured with curtains, partitions, doors that locks from the inside (with status indicator), etc.

(Interior design)

C16-6 Interior must be designed with colours clearly visible for people with visual impairment (low vision).

(Equipment)

C16-7 The room must be equipped with chairs for feeding babies, baby chairs, diaper changing tables, and sanitary bins.

G16-2 It is desirable that space for personal belongings, a hot-water serving equipment, and tubs or washing basins are provided.

(Chairs)

G16-3 It is desirable that chairs for feeding babies are either long benches, or chairs with backrest and armrests.

(Water taps)

G16-4 It is desirable that at least one washing tub or basin is equipped with a lever-type or hands-free sensor tap.

3-16-4. Diaper changing table

See 3.9. Toilet Facilities (Diaper changing tables) regarding structure of diaper changing tables.

3-16-5. Additional facilities

G16-5 It is desirable that water servers are installed as well as vending machines to provide diapers, baby food, beverages, etc.

G16-6 It is desirable to have an electrical outlet in a convenient location.

(Equipment to communicate information in emergencies)

C16-8 Baby care rooms of facilities equipped with automatic fire alarm equipment must have a light-based alarm system such as a display system for showing letters or signs, flash lights, and rotary beacon lights installed and provide information regarding emergency situations such as fires for all people, including those with auditory impairment.

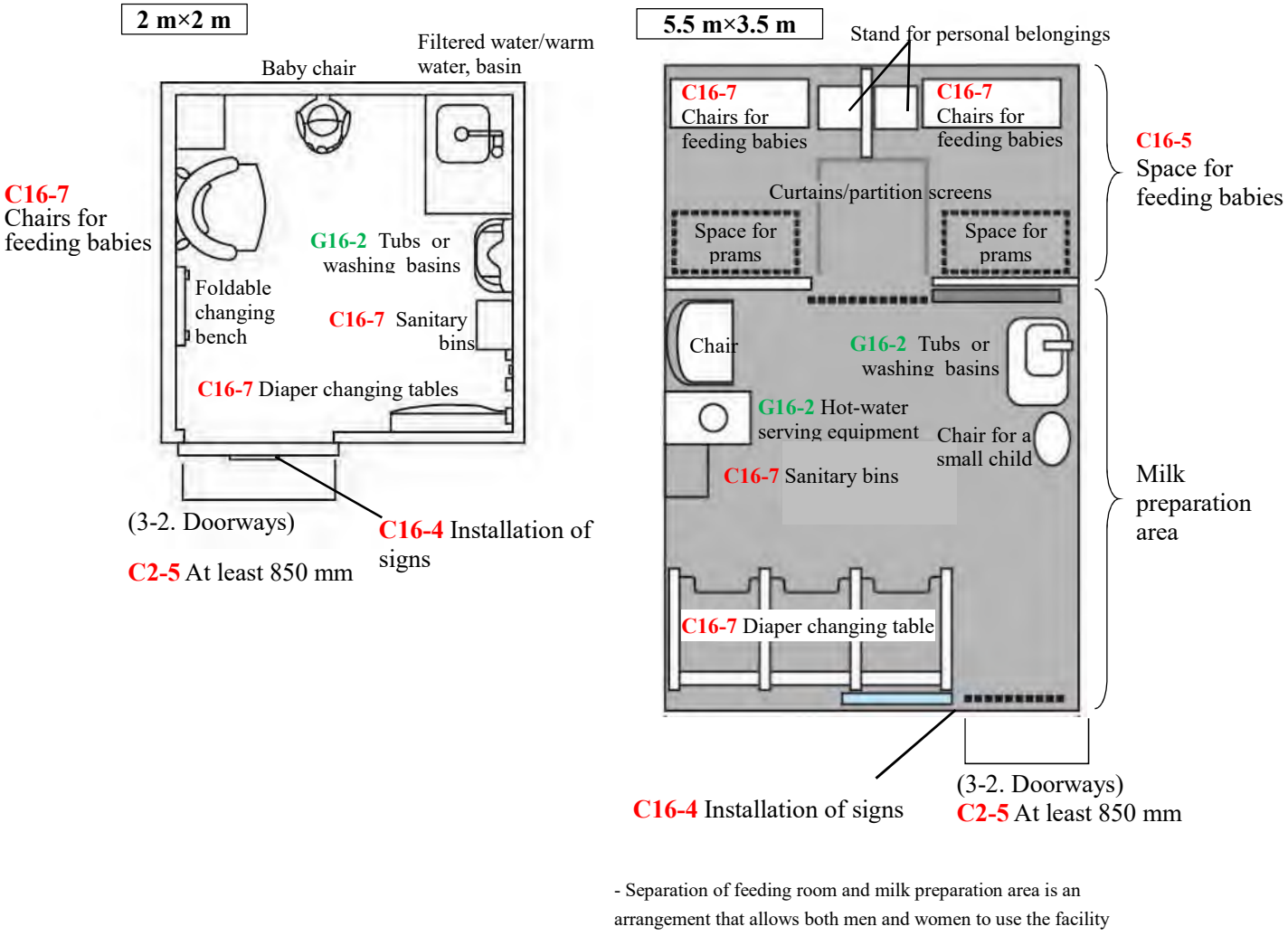


Figure 3.16.1 Illustration of a baby care room

3-17. Prayer rooms

The Expo Site will be visited by many people of diverse religious and cultural backgrounds. It is desired that facilities are prepared to cater to special needs of those people. Matters concerning the prayer room that serves as a place for spiritual activity such as prayer, devotion, silent prayer, meditation, reflection, and pondering in a serene environment and a small ablution facility for cleansing one's body before prayer will be noted here. Accessibility by all must be considered when providing the facilities.

(Doorways)

C17-1 If providing a room of worship, doorways must have an area free from obstructions, with space secured for removing shoes, and ensuring removed shoes do not block passageways.

C17-2 Area for removing shoes must include chairs to sit on when removing shoes.

(Space for prayer)

C17-3 Chairs must be provided in the prayer space for people who are unable to kneel in prayer.

(Ablution facility)

G17-1 If providing a facility for ablution to cleanse one's body, it is desirable to position it close to the doorway.

G17-2 It is desirable that handrails are placed horizontally on the wall of the ablution facility at a height of 700-800 mm.

G17-3 It is desirable that shower sink, soap space, and paper towel dispensers are placed in the ablution facility at a height of 700-1,200 mm.

G17-4 It is desirable for open space having a width of 1,200 mm to be available in front of ablution equipment.

3-18. Fixtures and equipment (handrails, counters, vending machines, etc.)

Internal and external fixtures and equipment are vital facilities for the convenience and comfort of visitors, and therefore the equipment need to be implemented in such a way that is accessible for all.

3-18-1. Handrails

Handrails are necessary equipment for the elderly, people with disabilities, etc. as support to keep from falling, for standing up, moving around, and as guidance for people who are visually impaired, among others. Handrails must conform to positioning, shape and size fitting for the facility they will occupy, the location, and needs of users.

Standards common to all facilities are as follows. See 3-4 for stairs, 3-5 for slopes, 3-6 for lifts, 3-7 for escalators, and 3-9 for toilet facilities regarding individual standards based on the facility.

(Installation heights)

C18-1 Single handrails must be installed at approx. 750-850 mm high.

G18-1 In the case of double handrails, it is desirable for height to be at 750-850 mm for one, and 600-650 mm for the other.

(Continuity)

C18-2 Handrails must be installed continuously from the starting point to the finishing point. Handrails must be installed to match the gradient along stairways and slopes so that the gradient can be detected by users.

(Location if installing double handrails)

G18-2 It is desirable that corridors, stairways, slopes, etc. are equipped with double handrails in view of their use by children.

(Distance from the wall)

G18-3 It is desirable that handrails are mounted 40-50 mm away from the wall and supported from underneath so that the mounting brackets do not obstruct hand movements.

(Shape)

C18-3 Wavy handrails are not acceptable.

G18-4 It is desirable that a cross-sectional view of the handrail is approx. 30-40 mm in outer diameter (30 mm for handrails for children), in a shape that is easy to grip.

G18-5 In stairways with balustrade, the balusters are preferably distributed at an interval of 110 mm maximum, to prevent children from falling through the balustrade.

(End part treatment)

G18-6 It is desirable that ends of handrails bend inward toward the wall to reduce the risk of collision and to avoid clothing from getting entangled.

C18-4 If ends of handrails bend downward toward the floor, they must be treated to avoid entanglement.

(Materials)

C18-5 Material must be pleasant to the touch, corrosion resistant, durable, and easy to manage and maintain.

(Indication in braille)

C18-6 Indication in braille must conform with JIS-T-0921 guidelines and be displayed alongside same content in embossed lettering. See items regarding individual facilities for the content to be displayed in these facilities.

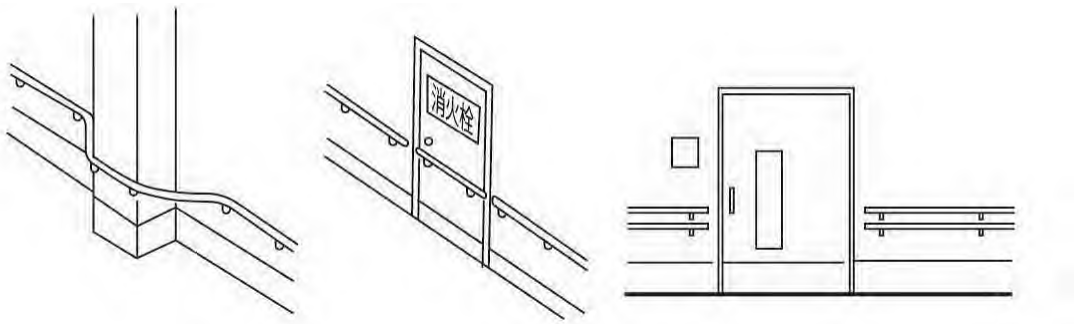


Figure 3.18.1 Handrails (illustration of continuous handrails)

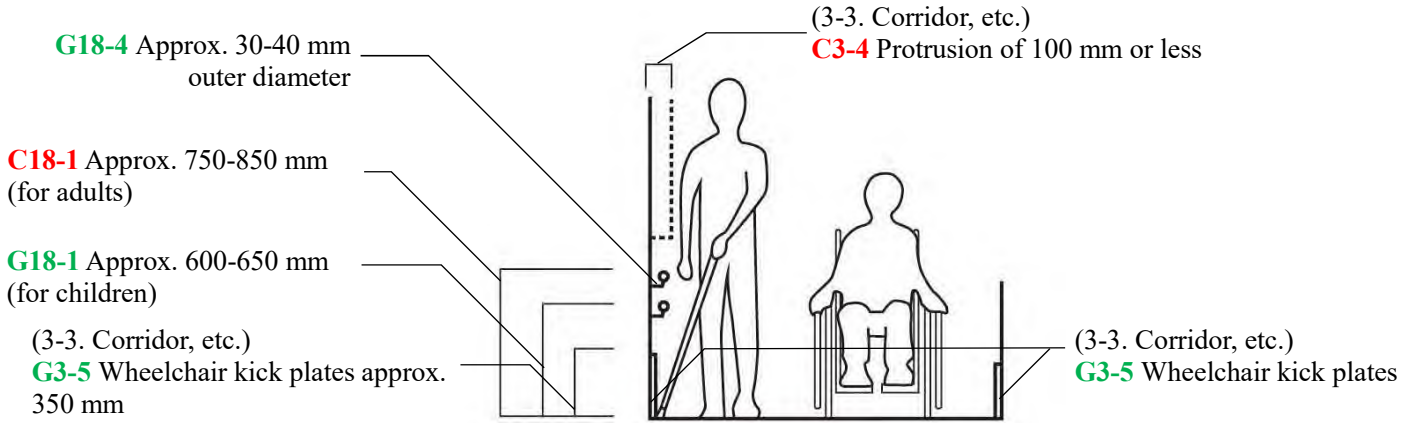


Figure 3.18.2 Handrails (illustration of wall-mounting)

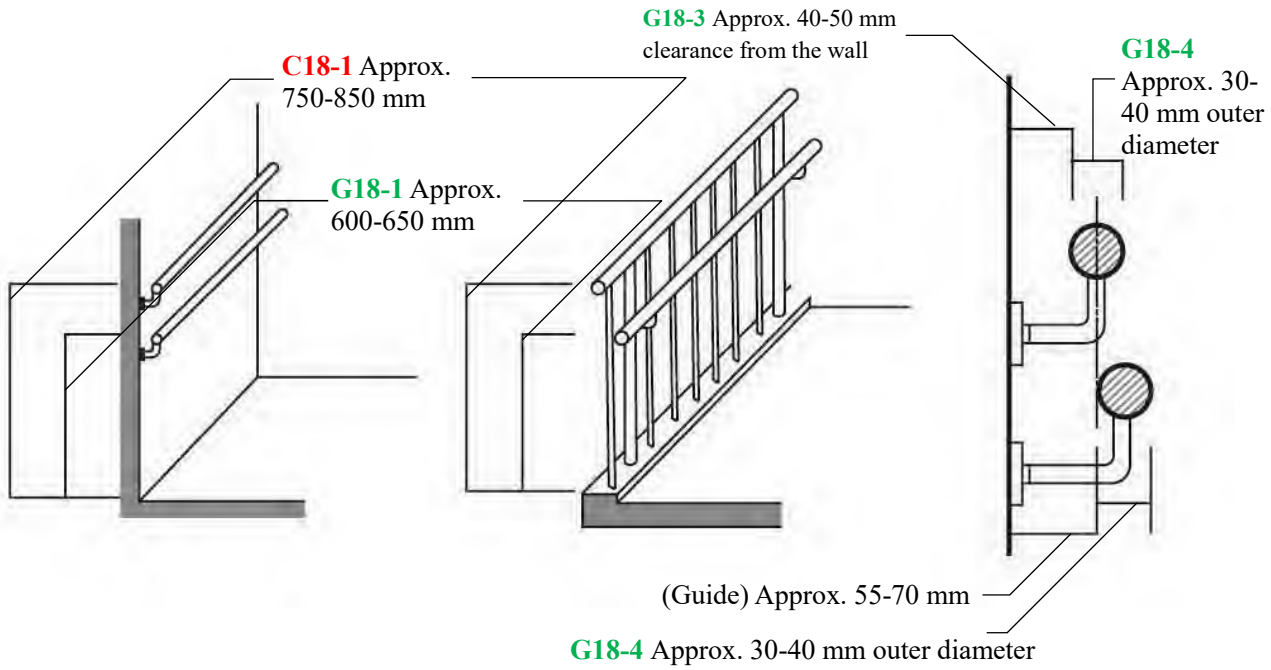
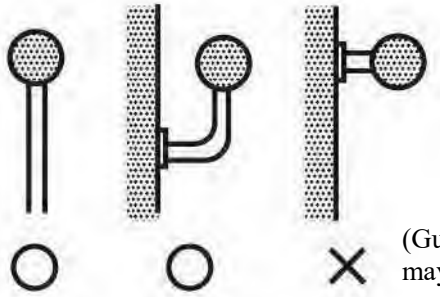


Figure 3.18.3 Handrail installation dimensions



(Guide) The mounting brackets may hit the hand.

Figure 3.18.4 Handrail styles

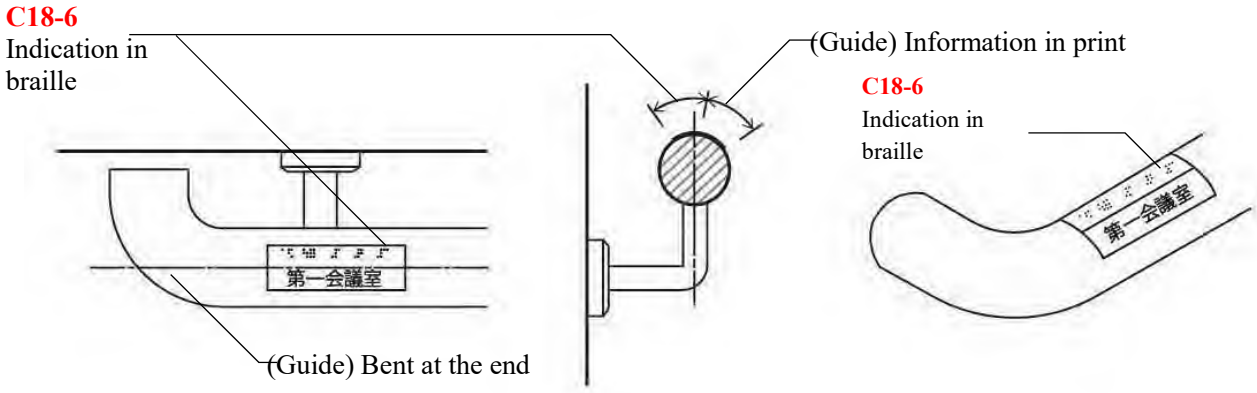


Figure 3.18.5 Braille labels on handrails

3-18-2 Counters

(General guidelines)

C18-7 Where a reception counter which can be used by more than one person is installed, it must be approx. 750 mm tall and at least 1,000 mm wide.

G18-7 It is desirable to have an indent for resting a cane, umbrella, or a hook or similar device to rest a cane.

(Wheelchair-accessible counters)

C18-8 Tables and counters that wheelchair users can use must be 650-700 mm from the floor to the bottom end, 700-750 mm to the top end, and space below the counter must be at least 450 mm deep.

C18-9 Space in front of the counter, etc. must be sufficiently large so that a wheelchair can turn around, and that the floor is horizontal.

G18-8 It is desirable that these have a groove towards the front to make it easy to grab when getting up or approaching with a wheelchair.

(Low seating counters)

G18-9 It is desirable that chairs for low seating counters are 400-460 mm high and with armrests provided.

(Standing height counters)

G18-10 It is desirable that the counters are 900-1,000 mm tall.

C18-10 It is desirable that the counter is fixed to stabilise the body and that handrails are installed as necessary for support. In addition to standing height counters, at least one counter with requirements set forth in this Item must be provided that the elderly, those with disabilities, and wheelchair users can access.

G18-11 It is desirable to have a horizontal handrail installed to place a hand on when getting up.

3-18-3. Vending machines, ticketing machines, etc.

(Positions and heights of the equipment)

G18-12 It is desirable that money inlets, selection buttons, and product outlets are located approx. 600-1,000 mm from the floor to be easily accessible for wheelchair users.

G18-13 It is desirable that there are no level changes in front of the equipment.

(Specifications of the equipment)

C18-11 The money inlet must be a type that is accessible to wheelchairs users (with a coin-receiving tray, multi coin acceptor, etc.).

(Information)

G18-14 It is desirable to place textured floor tiles (dot/line-type) continuously to vending machines, ticketing machines, etc. that are accessible for people with visual impairment from routes to information equipment (unless other means are provided, such as audio guiding information, tactile graphic boards provided as information equipment within the building, etc.).

G18-15 In consideration of people who are visually impaired, it is desirable that machines can be operated with voice guide (voice-operated buttons or app-accessible information).

3-18-4 Litter bins, electrical outlets

(Provision as a principle)

C18-12 If litter bins are installed, they must be positioned so that all users have access to them.

G18-16 It is desirable that litter bins be provided in toilets and by vending machines, benches for resting, spaces for feeding babies, and diaper changing tables.

C18-13 Litter bins must not be installed near doors so as to ensure doors open, close, and lock easily.

(Height)

C18-14 It is desirable that the litter bin openings are approx. 900 mm (1,200 mm max.) tall.

(Easy identification)

C18-15 Litter bins must be easily identifiable in terms of their shapes and colours, with garbage classification displayed in an easy-to-understand manner.

(Lid operation styles)

G18-17 It is desirable that litter bins reflect consideration of the fact that it may be difficult for some people to open a lid with hands or feet (avoid foot-pedal type lid).

(Provision of electrical outlets)

G18-18 It is desirable to provide electrical outlets in appropriate locations within rooms for resting, resting areas, and information points for use by visitors.

3-18-5 Gates

(Styles)

C18-16 Revolving gates must not be installed.

(Effective widths)

G18-19 It is desirable that at least one gate is 900 mm wide minimum.

C18-17 The effective width of a gate must be at least 850 mm.

(Opening direction)

C18-18 Gates must open in the direction of travel.

(Arrangements for wheelchair users)

C18-19 If there are turnstile gates or other ticketing control equipment installed that generally do not allow access by wheelchair users, at least one gate or doorway accessible for wheelchairs (including electric ones) must be installed adjacent to them.

3-18-6 Windows

(Handle styles)

G18-20 It is desirable that window handles are ones that do not require a twisting action of the wrist, preferably operable with the arms or elbows or automated to be opened/closed easily.

(Installation heights)

G18-21 It is desirable for windows to be installed at 900 mm from the floor. It is also desirable that measures are put in place to prevent trip and fall accidents if the windows are within 1,200 mm from the floor.

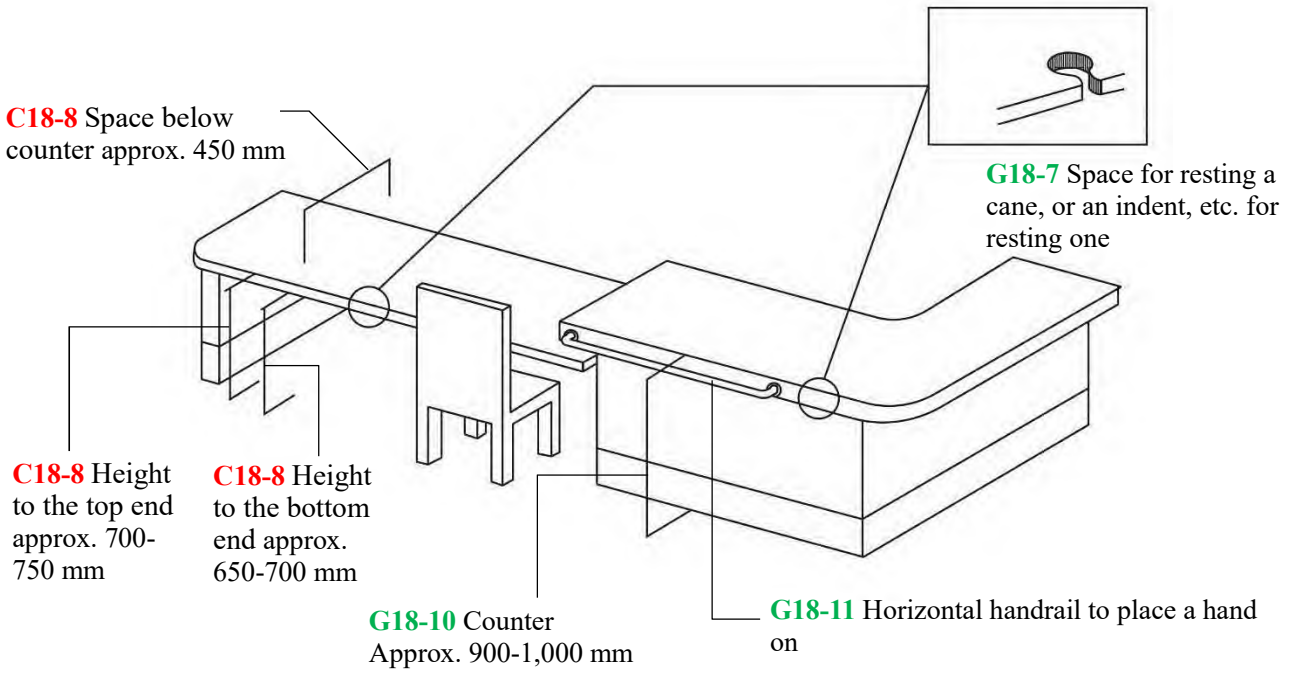


Figure 3.18.5 Illustration of a counter

3-19. Interior design (interior decorations, equipment, and other arrangements)

3-19-1. Rooms

Matters noted here are common for all rooms inside buildings except for corridors, etc. (3-3); toilet facilities (3-9); auditorium (3-10); food service/retail vendor areas (3-12); baby care rooms (3-16); and prayer rooms (3-17).

(Floor finish)

C19-1 There must be no level changes in rooms. If a level change is unavoidable, a slope must be installed. (Standards regarding slopes are noted in 3-5.)

(Turnaround space for wheelchairs)

C19-2 Each of the rooms must have one or more space of at least 1,400 mm x 1,400 mm secured for a wheelchair to turn around.

3-19-2 Lockers

(Installation heights)

C19-3 Lockers for wheelchair users and short people must be placed 600-1,200 mm from the floor and account for at least 50% of all lockers.

(Locker number display)

G19-1 It is desirable that locker numbers are clearly indicated, labelled in braille, and displayed in embossed lettering.

(Operation panel, etc.)

G19-2 As touch panels are difficult for people with visual impairment to use, if installing such panels then it is desirable for there to be another version without touch panels (such as with keys) available as well.

3-19-3. Balconies

(Doorways)

C19-4 Doorways must be flat and horizontal.

C19-5 Doorways must be at least 900 mm wide.

C19-6 Doorways must be level with the adjacent floors wherever it is possible.

(Size)

C19-7 Balconies must be joined together and wide enough for wheelchair users to pass through.

C19-8 They must have an area size of at least a 1,500 mm square.

(Floor finish)

C19-9 The floor must have a rough surface or be finished using slip-resistant materials on which canes, wheelchairs, and legs will not get easily caught on.

3-20 Evacuation equipment, etc.

Necessary planning and design arrangements with the following points in mind must be in place for evacuation routes to be put in place and for necessary information guidance to safely and quickly evacuate all people by considering the characteristics of the venue users, the use of the place, and emergency protocols for each of the pavilions and event facilities, in order to enable all people including the elderly, people with disabilities, etc. to evacuate smoothly in case of an emergency.

- Information on emergency situations such as fires and earthquakes must be swiftly and appropriately relayed to the elderly, those with disabilities, etc.
- Consideration must be given to ensure information is provided to people with visual impairment and those with auditory impairment.
- For the smooth evacuation of the elderly and people with disabilities, flowline design for emergency evacuation routes must be easily identifiable and information is to be provided for people to easily find the direction in which to evacuate.
- Assistance in evacuating wheelchair users and others is necessary depending on the use and size, etc. of facilities. Temporary refuge areas and routes to those areas must be provided as well as leading individuals to those areas as appropriate.

3-20-1. Emergency routes

(Flowline)

C20-1 Evacuation routes must be put in place for each of the pavilions and event facilities to safely and quickly evacuate all people.

(Treating level changes)

C20-2 Evacuation routes must be step-free.

(Provision of evacuation instruction equipment)

G20-1 It is desirable that emergency exit lights, travelling flashing lights systems, phosphorescent tiles, etc. are installed on the ceiling along the evacuation routes.

C20-3 So that evacuation instructions can be relayed in case of disaster, equipment and mechanisms for emergency notification using texts and lights, in addition to sound, must be installed.

3-20-2. Temporary refuge area

(Provision as a principle)

G20-2 It is desirable that safe, temporary refuge areas are provided on stairway landings, on balconies connected to stairs, stair vestibules, and corridors, etc. in areas that do not block evacuation routes to be used while waiting for rescue in emergencies.

(Necessary features)

C20-4 If providing a refuge area, so that wheelchair users have adequate space for refuge, there must be at least 900 mm x 1,300 mm of space per person secured.

C20-5 Structure of the temporary refuge space shall be fire resistant and smoke- and flame-insulated as necessary for awaiting rescue.

C20-6 The temporary refuge space shall be equipped with two-way communication equipment to call for rescue, describe current situations, etc., with the centre of selection buttons positioned at a height of approx. 1,000 mm from the floor.

(Indication)

C20-7 Temporary refuge space must be clearly indicated as such to be easily identifiable. If a staircase or stair vestibule is to be installed, there must be indication by the entryway that temporary refuge space is provided there.

3-20-3. Methods of communication

G20-3 It is desirable that equipment be installed that takes into consideration the elderly, foreign nationals, people with intellectual disabilities, etc. in addition to those with visual and auditory impairment in communicating information in a way that is easy to comprehend.

3-20-4. Fire alarms and fire extinguishers

(Locations)

C20-8 It is desirable that these are installed in places accessible to all people, including wheelchair users.

C20-9 Equipment must be mounted directly on walls free from obstruction for use no higher than 1,100 mm.

(Features)

C20-10 Emergency exit lights installed in a building with automatic fire alarm equipment must have a flash mode and audio guiding feature.

C20-11 These exit lights must not trigger the flash mode or audio guiding when the automatic fire alarms on the path from the lights towards the evacuation points are set off.

3-20-5. Other

C20-12 Door opening devices must be able to continue functioning even under emergency alarm conditions.

C20-13 Lighting must be installed so that evacuation routes leading out from areas under alert can be seen even under emergency alarm conditions.

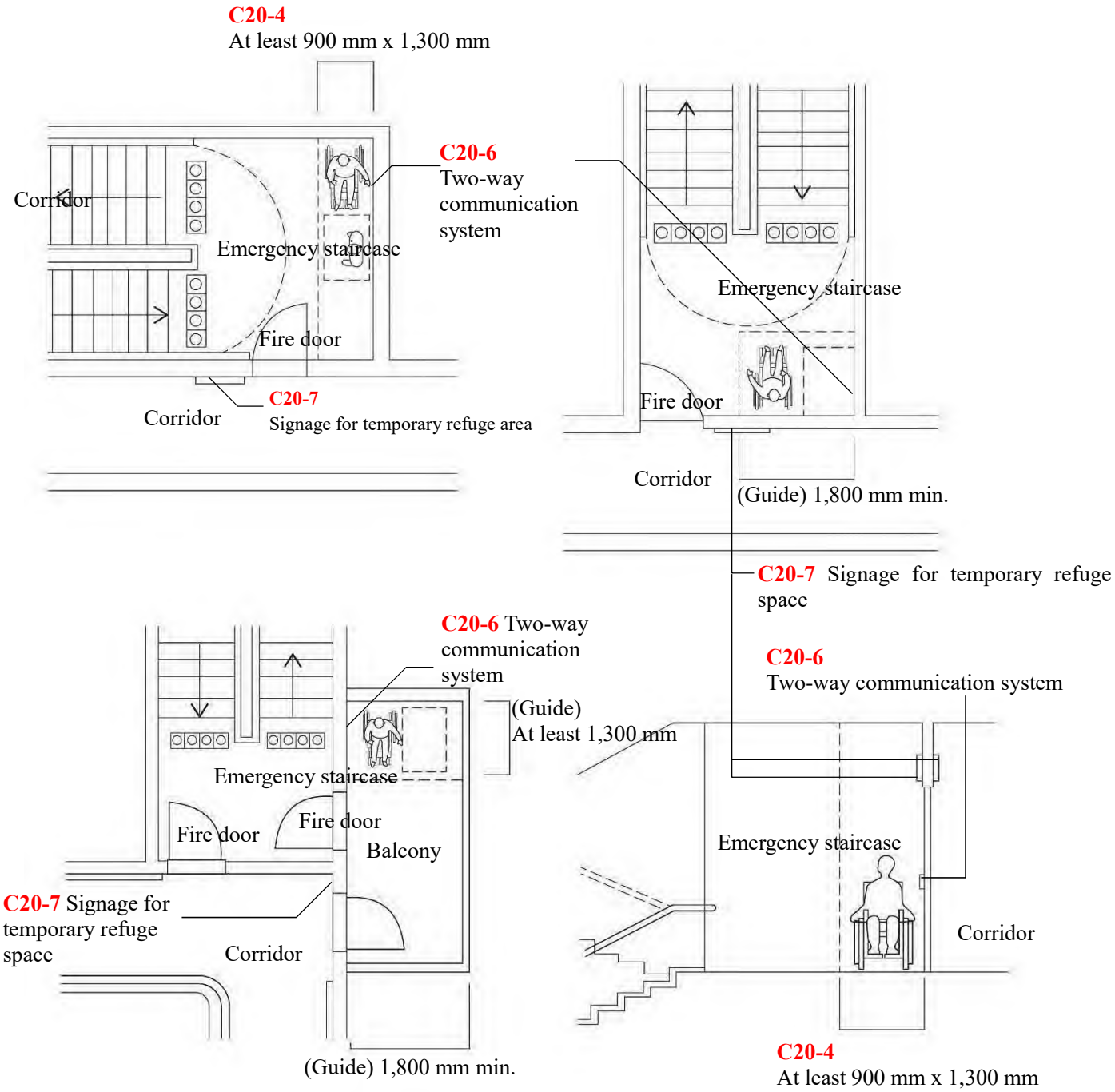


Figure 3.20.1 Illustration of temporary refuge area

4. Management of the UD Guidelines

Participants are required to submit documents concerning universal design, for each of the phases from the designing stage through completion of construction work. For details regarding submission/application, see 'Guidelines for Designing Type-A Pavilion (Self-Built Pavilion).'

4-1. First set of documents to be submitted

Document to be submitted: Universal design checklist

Participants are required to submit the universal design checklist (form designated by the Organiser), after having confirmed its items based on the General Design Plan. Regarding items for which detailed dimensions and positioning are not provided during the general design stage, participants must write out their policy pertaining these items.

4-2. Second set of documents to be submitted

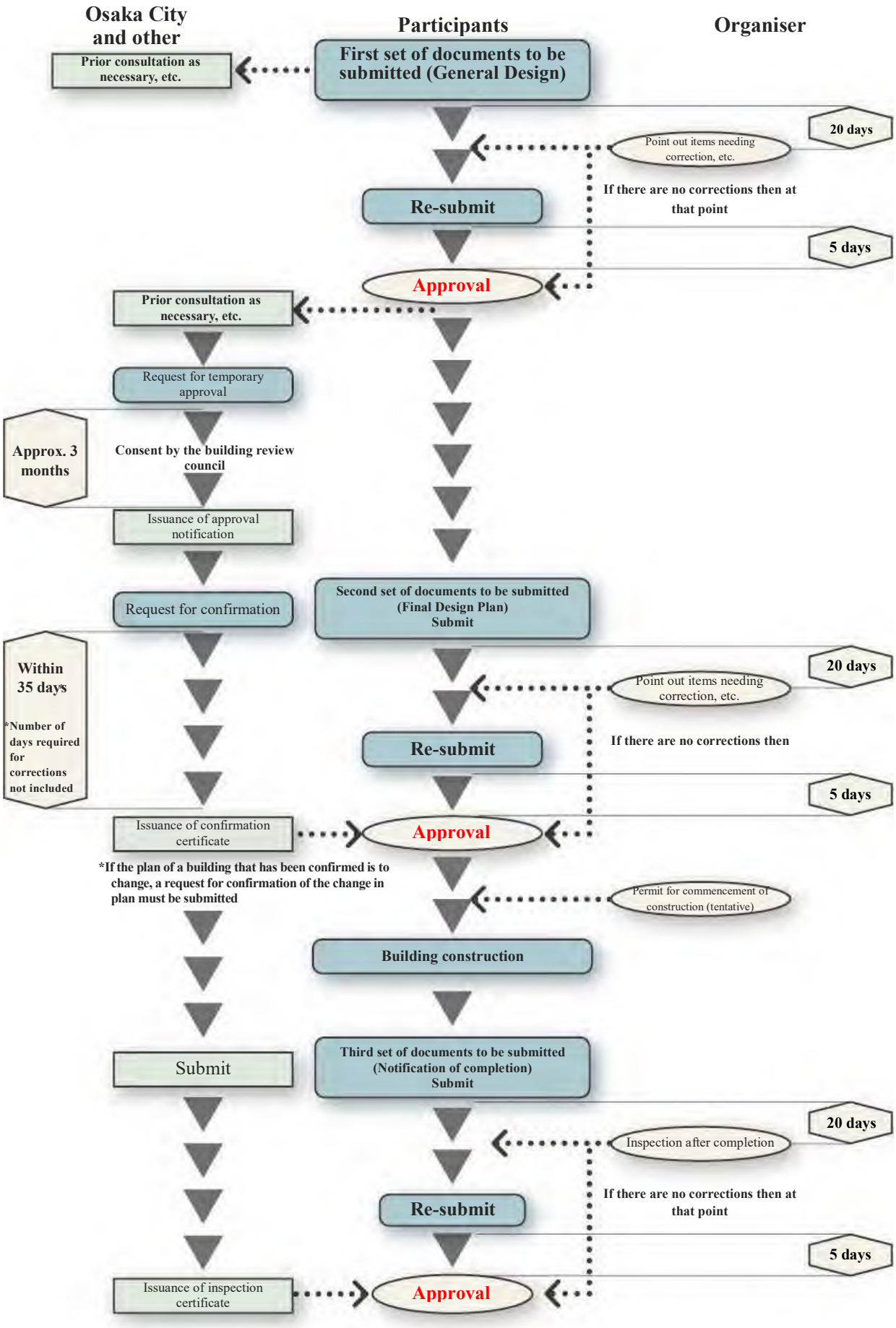
Documents to be submitted: Plan regarding universal design
Universal design checklist

Participants are required to submit a plan regarding universal design incorporated in their final design, elaborating on matters they particularly paid attention to. They are to also submit the universal design checklist (form designated by the Organiser), after having re-confirmed its items based on the Design Plan.

4-3. Third set of documents to be submitted

Document to be submitted: Universal design checklist

Participants are required to submit the universal design checklist (form designated by the Organiser) after having confirmed its items regarding facilities and the plot after completion of construction work, and also submit a request for inspection after completion to be conducted by the Organiser to receive approval for completion of construction work.


Osaka City and other
Participants
Organiser
Prior consultation as necessary, etc.
First set of documents to be submitted (General Design)
20 days
Point out items needing correction, etc.
If there are no corrections then at that point
Re-submit
5 days
Approval
Prior consultation as necessary, etc.
Request for temporary approval
Approx. 3 months
Consent by the building review council
Issuance of approval notification
Request for confirmation
Second set of documents to be submitted (Final Design Plan) Submit
Within 35 days
*Number of days required for corrections not included
20 days
Point out items needing correction, etc.
If there are no corrections then
Re-submit
5 days
Issuance of confirmation certificate
Approval
*If the plan of a building that has been confirmed is to change, a request for confirmation of the change in plan must be submitted
Permit for commencement of construction (tentative)
Building construction
Submit
Third set of documents to be submitted (Notification of completion) Submit
20 days
Inspection after completion
If there are no corrections then at that point
Re-submit
5 days
Issuance of inspection certificate
Approval

5. References/relevant literature

Reference materials and other literature relevant to the preparation of the Guidelines are listed below. Use the links provided under 1-4. Compliance with laws and regulations for details of these texts and documents.

- Convention on the Rights of Persons with Disabilities
- IPC Accessibility Guide
- Universal Design 2020 Action Plan
- Tokyo 2020 Accessibility Guidelines
- Architectural Design Standards Taking into Consideration Smooth Use by Elderly People and Persons with Disabilities (March 2021)
-Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc. (Accessibility Improvement Act) and order for enforcement of the Act
- Osaka Prefectural Ordinance on Welfare Communities and Enforcement Rules/Guidelines
- Osaka Municipal Government Guidelines for Accessible Urban Planning and Enforcement Standards for the Guidelines
- Ordinance on Welfare Urban Planning: A Guide to Facility Implementation and Management (public facilities) (April 2019), Prefectural Government of Hyogo
- Dubai Universal Design Code (February 2017)
- A Guide for Handicap-aware Designs—Architectural Design Planning Pamphlet No. 26 by the Architectural Institute of Japan (1984)

Contact

Inquiries regarding details of the Guidelines and questions regarding necessary procedures should be sent to the Organiser using the Queries function of the Participant Portal.

If there are any problems in using the Participant Portal, please contact the following email address: participant@expo2025.or.jp (other address is possible as well).


OSAKA, KANSAI, JAPAN
EXPO
2025
Bureau
International
des Expositions

Code of Sustainable Procurement

GL 4-8-1 / GL5-1-1 / GL9-1-1 / GL10-1-1 June 2022

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Terminology

Term	Definition
Goods and services	Items and services (including services provided electronically) concerning the construction of pavilions, building materials, supplementary materials, equipment, supplies, consumables, etc.
Licensed merchandise	Items which licensees manufacture, sell, etc. based on license agreements with the Organiser of the World Expo 2025.
Supplier	A business operator contracted by the Organiser of the World Expo 2025 to provide goods and services (primary supplier).
Licensee	A business operator engaging in the manufacture, sales, etc. of the official licensed merchandise that carries the logo etc. of the Expo 2025 Osaka, Kansai, Japan.
Supply chain	Business operators (e.g., secondary/tertiary suppliers) that carry out the manufacture, distribution, and other supply stages, including the harvest of feedstocks, before the goods are delivered to Suppliers, Licensees, or Pavilion Organisers.
Sponsor	Enterprises that provide know-how, goods/services, or funding required for the operation of the Expo 2025 Osaka, Kansai, Japan.
Pavilion Organisers	The government of Japan; the Organiser of the World Expo 2025; foreign governments and international organisations, and other institutions (Official Participants) and enterprises and local governments (Non-official Participants) that have signed the Participation Contract with the Organiser of the World Expo 2025 for their participation in the Expo; business operators that have signed the Commercial Participation Contract with the Organiser of the World Expo 2025 for their participation through Commercial Activities (Concessionaires); and other agents that otherwise participate in the operation of Pavilions at the Expo (including participants of the Future Society Showcase Project, TEAM EXPO2025, various events, and publicity/promotion activities)

Licensee-contracted business operator	Business operators directly contracted by Licensees.
Pavilion-contracted business operator	Business operators directly contracted by Pavilion Organisers.
Manufacture, distribution, etc.	The process involving the harvesting of feedstocks, manufacturing, production, construction, distribution, and other operations, whether they take place in Japan or otherwise, involved before the delivery (including by electronic means) of goods or provision of services to the Organiser of the World Expo 2025, the sales of licensed merchandise, or the delivery of goods or provision of services to the Pavilion Organisers (note that, while it would be important to encompass the entire lifecycle (or a value chain) of products from the raw material production to the disposal of the products from the sustainability perspective, the Procurement Code shall limit its scope, to avoid ambiguity, to the point where Goods and services are delivered to the Organiser of the World Expo 2025, Licensed merchandise are sold, or goods and services are delivered to the Pavilion Organisers).
Value chain	The entire lifecycle of products and services, covering from the cultivation of feedstocks, manufacturing, distribution, storage, and provision of services and use of products, including their development stages, to the disposal, recycling, and other end stages
Inclusive	Referring to the state in which diverse people are accepted by others without being subjected to discriminations or harassments.
Offset scheme	A method of offsetting the effects of CO_2 footprints by means of carbon credits. The carbon credit is the emission-equivalent credit in relation to projects such as upgrading boilers, introducing solar generation systems, and managing forests, approved through the MRV (monitoring, reporting, and verification) process so that it can be traded between national governments, private businesses, and other agents. Its value is determined by subtracting the amount of the project's actual footprint (project footprint) from the estimate of the emissions based on the non-existence of the project, prospective

	carbon absorption and removal, etc. (baseline footprint).
Due diligence	A perpetual process to assess corporations in terms of their negative impacts of possible illegal acts, human rights violations, environmental pollution, and other factors through their business operations and through business with supply chain, implement measures based on the assessment results, and review the measures about their effectiveness
Women's empowerment	Realization of women's potential to change their social, economic, and political standing by being autonomous agents who have the rights and abilities to direct their personal and social lives, and by participating in decision-making processes at various levels.
Reproductive health and rights	Sexual and reproductive health and rights. The rights encompass the right to freely determine the number of children to have, the frequency of pregnancy, and the timing of childbirth, and the basic rights to have access to information and means to realize these.
Work-life balance	A state in which a balanced distribution of time is achieved between personal and professional life. In Japan, following the enactment of the Act on the Promotion of Female Participation and Career Advancement in the Workplace (Act No. 64 of 2015), the national government etc. promote the procurement practice to favour suppliers that promote better work-life balance.

1. Overview

The Japan Association for the 2025 World Exposition (hereinafter referred to as “the Organiser of the World Expo 2025”) shall pursue initiatives to attain the SDGs through its organisation of the International Exposition, Expo 2025 Osaka, Kansai, Japan (hereinafter referred to as “the Expo”), held under the theme of “Designing Future Society for Our Lives.”

This Procurement Code is designed to reduce the risks related to the environmental, social, and economic impacts of the Expo and aims to spread positive influences of its sustainable practices, leaving a valuable legacy in the environmental, social, and economic domains. With this in mind, the Organiser of the World Expo 2025 shall endeavour to make all procurement processes, encompassing the pre-event planning phase, the Expo event period, and after the event, a part of its contributions towards the attainment of a zero-carbon society, development of a sound material-cycle society, establishment of symbiotic relationships in nature, and preservation of the optimal environment. It shall introduce the technology to minimise CO_2 emissions and energy consumption, deploy renewable energy, and mitigate greenhouse gas emissions in relation to the manufacture, distribution, etc. of Goods and services, as well as reduce the footprint of the entire value chain throughout their lifecycles. The Organiser shall prioritise the minimisation of waste, thereby promoting “3R” practices and circular economy by proactively using recycled materials and reusable/recyclable components, among other initiatives, to realise a “sustainable Expo operation.”

The Organiser of the World Expo 2025 shall also strive to achieve an “inclusive Expo operation” by providing an environment which will encourage a diversity of participants, including visitors and staff members, to proactively participate with peace of mind and disseminate diverse ideas that are in alignment with the Expo Theme.

With these objectives in mind, this Code of Sustainable Procurement shall provide for the standards and operational methods in order to realise the best practicable procurement, for the realisation of a sustainable society, that respects sustainability-related international agreements and codes of conduct from different sectors (including the Sustainable Development Goals, Paris Convention, Osaka Blue Ocean Vision, Universal Declaration of Human Rights, UN Guiding Principles on Business and Human Rights, ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (including ILO core labour standards), and OECD Guidelines for Multinational Enterprises) and that also takes into consideration the contribution towards compliance with laws and regulations, prevention of global warming, resource depletion, and other environmental issues as well as problems concerning human rights and labour, realisation of decent work (rewarding and dignifying work), promotion of fair competition and business practices, and stimulation of active local economies.

The Organiser of the World Expo 2025 shall also encourage the compliance with this Procurement Code as a concerted effort among Suppliers, Licensees, Pavilion Organisers, and other stakeholders, including the

supply chains, while promoting an expansion of initiatives similar to this Procurement Code to attain the SDGs and firmly establish a sustainability-oriented mindset in wider society, from the central and local governments which provide financial and other forms of support to planning and organising the Expo to the suppliers.

2. Scope

This Procurement Code applies to everything that is procured by the Organiser of the World Expo 2025, including Goods and services and Licensed merchandise (hereinafter referred to as “Procured goods etc.”). It also includes the procurement from Sponsors.

The Procurement Code also applies to the Procured goods etc. which Pavilion Organisers procure in relation to the Expo.

The Organiser of the World Expo 2025 shall request Suppliers, Licensees, and Pavilion Organisers to comply with the Procurement Code as they engage in the manufacture, distribution, etc. of Procured goods etc. The Organiser of the World Expo 2025 shall require these Suppliers, Licensees, and Pavilion Organisers to encourage their respective supply chains also to comply with the Procurement Code, including by making appropriate arrangements in their contracts with these business operators.

3. Sustainability standards

The Organiser of the World Expo 2025 shall set forth sustainability standards as follows, detailing the requirements in relation to Procured goods etc. which Suppliers, Licensees, Pavilion Organisers, and their respective supply chains (hereinafter collectively referred to as “Suppliers etc.”) are to observe:

(1) General provisions

1.1 Compliance with laws and regulations

Suppliers etc. must comply with laws and regulations applicable in Japan or other countries, and respect international statutory requirements, when engaging in the manufacture, distribution, etc. of Procured goods etc. Where there exists a conflict between international statutory requirements and local laws and regulations, they must pursue a way in which the local laws and regulations are complied with while the international statutory requirements are respected.

1.2 Prohibition of retaliatory actions against whistleblowers

Suppliers etc. must not take retaliatory actions against whistleblowers for making a report concerning their acts of violation of laws and regulations or noncompliance with the Procurement Code. Suppliers etc. shall also make efforts to have a system in place to receive such a report and take appropriate actions.

(2) The environment

In view of the ongoing progress made in the development of laws, policies, and guidelines for the environment in Japan, it is required in principle that the procurement activities for the Expo conform to the Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Act No. 100 of 2000), and that Procured goods etc. meet the policies etc. of the governments of Japan and Osaka for reducing environmental impact (including the national government's Basic Policy for the Promotion of Procurement of Eco-friendly Goods and Services and Osaka Prefectural Government's Osaka Green Procurement Policies).

The Code also requires that, apart from Goods and services in themselves, arrangements shall also be made throughout the lifecycle of the entire value chain, including in their manufacturing and distributing processes, to lessen their environmental impact.

2.1 Promotion of enhanced energy efficiency

Suppliers etc. shall make efforts to reduce their energy consumption through the manufacture, distribution, etc. of Procured goods etc. This includes, for example, the installation of high-energy-efficiency equipment and logistics systems, insulation of the buildings, and introduction of energy management systems.

2.2 Utilisation of low- or zero-carbon energy

Suppliers etc. shall make efforts to utilise the energy sources that have lower CO_2 footprints for their manufacturing and distribution of Procured goods etc. Examples include the electric power and heat derived from renewable energy.

2.3 Employment of other methods to reduce greenhouse gas emissions

Suppliers etc. shall make efforts to reduce greenhouse gas emissions through the manufacture, distribution, etc. of Procured goods etc. This includes, for example, the adoption of alternative chillers using CFC-free coolants (natural coolants) and the introduction of carbon-offset schemes.

2.4 Use of the feedstocks etc. that contribute to the mitigation of greenhouse gas emissions across the entire value chain

Suppliers etc. shall make efforts, in their manufacture, distribution, etc. of Procured goods etc., to select and use feedstocks, components, and fuels from the viewpoint of LCA (lifecycle assessment) to contribute to the mitigation of greenhouse gas emissions across the value chain. Such efforts include the use of low-carbon materials such as low-carbon concrete and recycled steel materials.

2.5 Promotion of 3R initiatives (Reducing, Reusing, and Recycling) + Renewable and circular economy

Concerning the Procured goods etc., Suppliers etc. shall make efforts to reduce waste by efficiently using the

feedstocks and making the most of the products' lives while ensuring that their products are designed for easy reuse/recycle after the Expo by adopting generic components and designing structures that are easy to dismantle, detach, or disintegrate. Suppliers etc. shall use recycled products and feedstocks containing recycled resources for their manufacture, distribution, etc. of Procured goods etc. They shall also endeavour to make best use of the resources they consume even by recovering energy from unreusable/unrecyclable waste. Suppliers etc. shall ensure the implementation of "3R+Renewable (switch to renewable energy) and appropriate disposal measures for the waste that is generated after the maximum efforts are made. Furthermore, they shall consider effective use of their stocks to reduce their resource deployment and consumption from a med-to-long term perspective, moving towards the circular economy.

2.6 Reduction of containers and packaging or adoption of recycled materials and plant-derived materials

Suppliers etc. shall make efforts in pursuing the manufacture, distribution, etc. of Procured goods etc. to minimize their use of containers and packaging for their products, as well as boxes for packing them and pallets, packing, and other materials for transportation. They shall also make use of recycled and plant-derived materials as well as such packaging materials that are easy to reuse or recycle.

2.7 Reduction of plastic product use and mitigation of its contamination of the environment

Based on the basic principles of 3R+Renewable stated in the "Resource Circulation Strategy for Plastics," Suppliers etc. shall, in their manufacture, distribution, etc. of Procured goods etc., reduce non-essential use and disposal of single-use plastic containers, packaging, and products and, where alternatives are possibly found, pursue the adoption of appropriate alternative recyclable resources, such as recycled materials/paper and bioplastics that retain or enhance the performance of the original materials.

2.8 Contamination prevention, chemical substances control, and waste management

Suppliers etc. shall comply with relevant environmental laws and regulations in pursuing the manufacture, distribution, etc. of Procured goods etc., preventing contaminations of air, water, and soil, appropriately controlling chemical substances (including those contained in their products), and properly disposing of their waste materials. They shall also make efforts to prevent adverse effects on the environment and human health resulting from the manufacture, distribution, etc. of Procured goods etc.

2.9 Cultivation of feedstocks with the awareness of resource conservation

Where Procured goods etc. involve forest/marine resources, Suppliers etc. shall not employ illegally produced resources. Similarly, they shall utilise such feedstocks in their Procured goods etc. that have been cultivated/harvested with the awareness of resource conservation, for example, to stop deforestation or forest degradation (to promote initiatives for zero-deforestation).

2.10 Protection of biodiversity

Suppliers etc. shall not use in their Procured goods etc. feedstocks that are derived from the endangered species and other wild animals and plants for which measures of resource conservation and reproduction

security are not taken for ensuring their sustainable use. They shall also endeavour to reduce the impact on biodiversity and ecosystems through the manufacture, distribution, etc. of Procured goods etc., including the cultivation and harvest of feedstocks, by pursuing the protection of endangered species and other wild animals and plants, the production that imposes less impact on wildlife and their habitats, etc.

(3) Human rights

The Organiser of the World Expo 2025 aims to achieve an inclusive Expo operation by providing an environment which will encourage a diversity of people to proactively participate with peace of mind and disseminate diverse ideas from the Expo.

3.1 Compliance with and respect for international human rights standards

Suppliers etc. must comply with, and respect, international human rights standards (in particular, the Universal Declaration of Human Rights, International Convention on the Elimination of All Forms of Racial Discrimination, International Covenant on Civil and Political Rights, International Covenant on Economic, Social and Cultural Rights, UN Convention against Torture, Convention on the Elimination of All Forms of Discrimination Against Women, Convention on the Rights of the Child, Convention on the Rights of Persons with Disabilities, International Convention for the Protection of All Persons from Enforced Disappearance, Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others, and UN Declaration on the Rights of Indigenous Peoples), in relation to Procured goods etc.

3.2 Prohibition of discrimination and harassment

Suppliers etc. must eliminate any forms of discrimination and harassment based on races, nationalities, religious affiliations, gender, sexual orientations/self-identities, disabilities, or social standings[i] from the manufacture, distribution, etc. of Procured goods etc.

3.3 Prohibition of the violation of rights of Indigenous peoples and local communities

Suppliers etc. must respect the rights of Indigenous peoples and local communities in pursuing the manufacture, distribution, etc. of Procured goods etc. They must respect the right to agreement by free will based on sufficient prior information and must not illegally displace members of the Indigenous peoples and local communities by force or considerably damage their environment for living.

3.4 Respect for the rights of women

Suppliers etc. shall, in pursuing the manufacture, distribution, etc. of Procured goods etc., respect women's rights and make arrangements for promoting female participation, enhancing childcare leaves, etc. from the viewpoints of women's empowerment, equal opportunities for social participation between men and women, and reproductive health and rights.

3.5 Rights of persons with disabilities

Suppliers etc. shall, in pursuing the manufacture, distribution, etc. of Procured goods etc., respect the rights of persons with disabilities and make reasonable arrangements such as the promoting their employment, enhancing accessibility in workplaces, and adopting products produced by such persons, in order to support their economic and social participation. Where the provision of products and services is concerned, they shall consider the convenience and safety of people with disabilities to be ensured.

3.6 Respect for the rights of children

Suppliers etc. shall, in pursuing the manufacture, distribution, etc. of Procured goods etc., respect the rights of children and make arrangements for stopping child labour, ensuring safety of products and services intended for children, providing support to parents and guardians involved in childcare, among others, in order to support sound development of children.

3.7 Respect for the rights of social minority groups

Suppliers etc. shall, in pursuing the manufacture, distribution, etc. of Procured goods etc., respect the rights of people belonging to social minority groups, such as racial or cultural minorities, sexual minorities, and immigrant workers, in the same manner as they respect the rights of other people, and make arrangements for supporting those individuals for enjoying equality in economic and social rights while protecting their privacy according to their characteristics.

(4) Labour

Given that labour is relevant to each and every step of manufacture and distribution, the Organiser of the World Expo 2025 shall pursue appropriate labour management and workplace environments to be ensured, in an effort to realise decent work, in the context of the global awareness of the problems concerning forced labour, child labour, long working hours, and employment of foreign workers. It shall also promote better work-life balance for workers.

4.1 Compliance with and respect for international labour standards

Suppliers etc. must comply with and respect international standards concerning labour (in particular, the basic principles and rights on labour promoted by the International Labour Organization[ii] (including the ILO core labour standards)) in relation to the manufacture, distribution, etc. of Procured goods etc.

4.2 Freedom of association and collective bargaining

Suppliers etc. shall ensure the fundamental rights of the workers engaged in the manufacture and distribution of Procured goods etc., such as the rights to freely associate and collectively bargain.

4.3 Prohibition of forced labour

Suppliers etc. must not employ any form of forced labour with wrongful physical or psychological restraints

or engage in human trafficking in pursuing the manufacture, distribution, etc. of Procured goods etc.

4.4 Prohibition of child labour

Suppliers etc. must not employ any form of child labour in pursuing the manufacture, distribution, etc. of Procured goods etc.

4.5 Prohibition of discrimination regarding employment and occupation

Suppliers etc. must not discriminate any worker engaged in the manufacture and distribution of Procured goods etc. in terms of their employment, wages, working hours and other conditions on the basis of their races, nationalities, religious affiliations, gender, sexual orientations/self-identities, disabilities, or social standings.[iii]

4.6 Wages

Suppliers etc. must pay the workers engaged in the manufacture, distribution, etc. of Procured goods etc. at least the minimum wage stipulated by law.

Suppliers etc. shall also take it into consideration that the wages paid should reflect the value of the workers' labour and be sufficient for them to pay for their essentials.

4.7 Prohibition of long working hours

Suppliers etc. must not subject workers to illegally-long working hours (or long working hours that may compromise the health and wellbeing of the workers to whom conventional regulations on working hours do not apply) for the manufacture, distribution, etc. of Procured goods etc.

4.8 Workplace health and safety

Suppliers etc. shall ensure, according to the laws and regulations concerning workplace health and safety, working environments and conditions for the workers engaged in the manufacture and distribution of Procured goods etc. for their physical and psychological safety and soundness, such as the installation of a health and safety committee and the provision of mental health programmes. Suppliers etc. shall also make efforts to ensure that the working environments allow the workers to maintain good balance between their work and personal lives.

4.9 Foreign and immigrant workers

Suppliers etc. shall appropriately manage the foreign and immigrant workers (including technical interns, specified skilled workers, and foreign students) working in their countries for the manufacture and distribution of Procured goods etc. pursuant to the relevant laws.[iv] They must not engage in illegal acts or misconducts towards these workers, such as withholding wages, demanding illegally long working hours, confiscating their passports, deporting them, and levying security deposits from them. They shall be required to issue the workers with the descriptions of working conditions in writing and in the language which the workers can understand. Suppliers etc. should, when they employ foreign and immigrant workers through

brokers or workforce outsourcing agencies, verify that these brokers and agencies are legally licensed to operate the brokerage/outsourcing, that they do not levy commissions from foreign and immigrant workers, and that they do not violate the rights of these foreign and immigrant workers. In addition, Suppliers etc. should make efforts to provide appropriate housing, develop a system that enable foreign and immigrant workers to easily access opportunities to file complaints or seek consultations, and liaise with the relevant authorities.

4.10 Prevention of violence and harassment at workplace

Suppliers etc. must prohibit workplace violence and harassment in relation to the manufacture, distribution, etc. of Procured goods etc. and implement appropriate measures for the prevention of these.

4.11 Proactive employment of disadvantaged people in the labour market

Suppliers etc. shall, in pursuing the manufacture, distribution, etc. of Procured goods etc., make arrangements to promote the employment of people with difficulties in finding jobs, such as people in need and single-parents.

(5) The economy

There is a growing social interest in recent years to expect fairness in business activities. Moreover, sustainability is perceived to comprise three pillars of the environment, society, and economy, and it is expected that these three aspects are harmoniously integrated into corporate economic and business activities. For business entities including Suppliers etc. and other SMEs, which form a fundamental part of the Japanese economy, their proactive engagement in the procurement activities for the Expo will, in particular, offer them an opportunity to identify new markets and enhance their expertise, allowing them to contribute to a sustained economic growth of the country. For this reason, the Organiser of the World Expo 2025 shall also emphasise the importance of initiatives concerning fair business practices and the local economy.

5.1 Prevention of corruption

Suppliers etc. must not allow themselves to be involved in acts of corruption such as bribery in pursuing the manufacture, distribution, etc. of Procured goods etc.

5.2 Fair trade practices

Suppliers etc. must, in pursuing the manufacture, distribution, etc. of Procured goods etc., comply with the Antimonopoly Act and the Subcontract Act. They must not take part in unfair, anti-competition trade practices, such as dumping, fixing an unreasonable consideration for a subcontract, and collusive tendering.

5.3 Use of feedstocks free from association with conflicts or crimes

For Procured goods etc., Suppliers etc. must not use feedstocks that are in any way related to armed conflicts or crimes, such as financing armed groups or criminal organisations.

5.4 Protection of intellectual property rights

Suppliers etc. must not infringe third-party intellectual property rights (patent rights, copyrights, design rights, etc.) or business secrets in pursuing the manufacture, distribution, etc. of Procured goods etc.

5.5 Responsible marketing

Suppliers etc. must not employ in marketing Procured goods etc. inadequate labelling that potentially compromises autonomous and rational consumer choice. Suppliers etc. should also give due consideration to consumers and society in pursuing the marketing of Procured goods etc. by, for example, avoiding discriminatory or misleading advertisements and restricting the advertisements that may have undesirable influences on children.

5.6 Appropriate information management

Suppliers etc. must treat personal information pursuant to relevant laws in pursuing the manufacture, distribution, etc. of Procured goods etc. and appropriately manage confidential information in relation to the Expo which they obtain through the course of their operations to prevent leakage due to cyberattacks or internal fraud. Suppliers etc. should also make efforts to strengthen their data access control and establish a data leakage mitigation system appropriate to the data security risks, as well as to ensure measures are in place to investigate the cause and minimise the damage in case of information leakage.

5.7 Stimulation of the local economy

Participation in the sustainable procurement required for the Expo offers the communities and SMEs in the host country a valuable experience that helps to attain international competitiveness and be invigorated, allowing local communities to thrive sustainably. Promoting local production and consumption as well as economic circularity within the host country also contributes to the efforts to reduce the greenhouse gas emissions. For this reason, the Organiser of the World Expo 2025 shall support initiatives to encourage communities and business operators in the host country to participate in sustainable procurement.

Suppliers etc. shall, when purchasing services and procuring feedstocks in relation to the manufacture, distribution, etc. of Procured goods etc., make efforts to secure opportunities for the local communities, SMEs, and business operators in agriculture, forestry, and fisheries that pursue sustainable vitalisation of the communities in the host country. They shall also endeavour to use products that are produced within the host country with sustainability in mind.

Where Suppliers etc. pursue the procurement that constitutes a government procurement applicable to the WTO Agreement on Government Procurement, they shall arrange such procurement while ensuring the compliance with the same Agreement.

4 Standards by items

The following items shall be subject to 3 and 5 as well as the respective standards provided in Appendix:

(1) Wood materials

(2) Paper materials

5 How to ensure sustainable procurement

(1) Understanding the Procurement Code

Those who wish to be a Supplier, Licensee, or Pavilion Organiser shall review and understand the Procurement Code in advance.

(2) Declaration of commitment

Those who wish to be a Supplier, Licensee, or Pavilion Organiser shall be required to submit a commitment form in advance to declare that they will be committed to comply with the Procurement Code.

(3) Development of a system for Procurement Code compliance

Suppliers, Licensees, and Pavilion Organisers should conduct appropriate reviews and assessments of their business operations and supply chains in terms of the negative impact they may have on the sustainability of the environment, human rights, and other factors (the risks to sustainability) prior to the conclusion of the contract with the Organiser of the World Expo 2025 and also in the subsequent period, and ensure that countermeasures are provided according to the risks identified through the assessments and a system is in place to ensure the compliance with the Procurement Code.[v] They shall observe, in assessing and addressing the risks to sustainability, the due diligence required of them by the international guidelines, including the United Nations Guiding Principles on Business and Human Rights, OECD Guidelines for Multinational Enterprises, OECD Due Diligence Guidance for Responsible Business Conduct, and ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy.

(4) Dissemination

Suppliers, Licensees, and Pavilion Organisers should, prior to the conclusion of the contract with the Organiser of the World Expo 2025 and also in the subsequent period, implement training, educational or otherwise appropriate opportunities to disseminate the content of the Procurement Code to their officers, employees, and members of the supply chains.

(5) Survey on supply chains and encouragement of their engagement

Suppliers, Licensees, and Pavilion Organisers should, prior to the conclusion of the contract with the Organiser of the World Expo 2025 and also in the subsequent period, make efforts to engage their supply chains to ensure the Procurement Code is complied with through the manufacture, distribution, etc. of Procured goods etc. by requesting the members of their supply chains to comply with the Procurement Code or equivalent procurement policies. They should also make their best efforts to conduct surveys on their supply chains and encourage their engagement. In the process of these surveys and engagement efforts, Suppliers, Licensees, and Pavilion Organisers should appropriately verify and assess the risks to sustainability in their supply chains with reference to the due diligence required by international statutory requirements and mobilise their efforts on survey and engagement on the supply chains or sectors of higher risks.

In their efforts to survey and engage the supply chains, Suppliers, Licensees, and Pavilion Organisers should emphasise the importance of communication with the supply chains based on the principle of coexistence and coprosperity so that the compliance with the Procurement Code be realised in a concerted effort with the supply chains.

Suppliers, Licensees, and Pavilion Organisers must ensure that, in terms of the contracts with parties in their supply chains, the details necessary for implementing the surveys and engagement of, and communication with, the supply chains are provided in the specifications and other documents.

(6) Documentation of implementation

Suppliers, Licensees, and Pavilion Organisers should, prior to the conclusion of the contract with the Organiser of the World Expo 2025 and also in the subsequent period, document as thoroughly as possible the efforts being made to ensure the compliance of the Procurement Code, including the efforts to survey and engage the supply chains, so that the records are readily available upon request of the Organiser of the World Expo 2025.

Suppliers, Licensees, and Pavilion Organisers shall make readily available upon request of the Organiser of the World Expo 2025, in particular, the names and addresses of facilities for manufacturing (in the assembly/finish stage) and for storage (including the facilities that belong to business operators in the supply chains) of Procured goods etc. They should also develop and implement a system that facilitates the provision of other information about these facilities as much as possible at the request of the Organiser of the World Expo 2025.

(7) Disclosure and explanation of implementation

Those who wish to be a Supplier, Licensee, or Pavilion Organiser shall disclose and explain their efforts to

ensure compliance with the Procurement Code (including ones being planned), which also include the survey and engagement of their supply chains, in the manner specified by the Organiser of the World Expo 2025 based on the types, volumes, etc. of Procured goods etc. Likewise, after the contract being concluded, the Suppliers, Licensees, and Pavilion Organisers shall be required to disclose and explain the implementation of their initiatives if it is requested by the Organiser of the World Expo 2025.

Furthermore, given that the Expo supports the initiatives aimed at attaining the SDGs, the Organiser of the World Expo 2025 may request Suppliers, Licensees, and Pavilion Organisers to explain their special contributions to the attainment of the SDGs through the manufacture, distribution, etc. of Procured goods etc. When this is requested, the Suppliers, Licensees, and Pavilion Organisers shall be required to disclose and explain the implementation of their initiatives.

(8) Verification and monitoring of compliance

The Organiser of the World Expo 2025 shall, before or following the conclusion of the contract with Suppliers, Licensees, and Pavilion Organisers, verify and monitor the compliance of Suppliers etc. with the Procurement Code when it deems necessary according to the levels of sustainability-related risks. Suppliers, Licensees, and Pavilion Organisers shall be required to cooperate in such verification and monitoring. If it is deemed necessary to conduct further investigations as a result of the aforementioned verification and monitoring, the Organiser of the World Expo 2025 may request the Suppliers, Licensees, and Pavilion Organisers to accept an audit conducted by the third party appointed by the Organiser of the World Expo 2025. Suppliers, Licensees, and Pavilion Organisers shall be required to cooperate with the Organiser of the World Expo 2025 and take necessary actions when it requests the verification and monitoring of the compliance with the Procurement Code or third-party audits to be conducted in their supply chains.

(9) Remedial measures

If a Supplier, Licensee, or Pavilion Organiser is found in noncompliance with the Procurement Code, the Organiser of the World Expo 2025 shall demand said Supplier, Licensee, or Pavilion Organiser that they implement remedial measures and submit, within a specified period, an improvement plan. Where this is the case, the Supplier, Licensee, or Pavilion Organiser shall be required to submit its improvement plan within the designated period, implement their remedial measures according to the plan after it is approved by the Organiser of the World Expo 2025, and report the results of the implementation of the measures to the Organiser of the World Expo 2025.

If noncompliance with the Procurement Code is found in supply chains, relevant Supplier, Licensee, and Pavilion Organiser shall be required to cooperate with the Organiser of the World Expo 2025 and take necessary actions to communicate the request for making improvements to the members of the supply chains.

The Organiser of the World Expo 2025 may terminate the contract with a Supplier, Licensee, or Pavilion

Organiser if the Supplier, Licensee, or Pavilion Organiser is deemed to be insufficient in implementing improvements despite their significant noncompliance with the Procurement Code. The noncompliance in the supply chains of Suppliers, Licensees, and Pavilion Organisers will not be a reason for the contract termination as long as the Suppliers, Licensees, and Pavilion Organisers are making appropriate communication with their supply chains based on the provisions of this Procurement Code and requests of the Organiser of the World Expo 2025.

(10) Additional measures designed for Pavilion Organisers

To ensure the compliance with the Procurement Code not only in the supply chains of the Organiser of the World Expo 2025 but also those of Pavilion Organisers, Pavilion Organisers must clarify and instruct the following details in the specifications and other documents in relation to the business contract with the business operators directly engaged by them (hereinafter referred to as "Pavilion-contracted business operators"):

(i) that the Pavilion-contracted business operator complies with the Procurement Code,
(ii) that the Pavilion-contracted business operator cooperates with the Organiser of the World Expo 2025 in the verification and monitoring of their compliance statuses,
(iii) that the Pavilion-contracted business operator accepts the audit of third-party designated by the Organiser of the World Expo 2025, and
(iv) that the Pavilion Organiser may terminate the contract with the Pavilion-contracted business operator if the Pavilion-contracted business operator is deemed to be insufficient in implementing improvements despite their significant noncompliance with the Procurement Code.

(11) Implementation of whistleblowing system (grievance mechanism)

The Organiser of the World Expo 2025 shall implement a whistleblowing section to receive and properly respond to the reports concerning noncompliance with the Procurement Code (containing information about an actual case of noncompliance or facts that may suggest such noncompliance with the Procurement Code, with the scope extending to supply chains; hereinafter referred to as "reports").

If reports are made, the Organiser of the World Expo 2025 shall request the reported Suppliers etc. to verify the facts and, should they be found or suspected to be in noncompliance with the Procurement Code, demand the remedial measures described in 9 above be implemented. Otherwise, it shall take necessary actions to resolve the noncompliance, such as prompting communication between the Suppliers etc. and relevant stakeholders.

Appendix: Standards by items

(1) Wood materials

Regarding the wood materials used for Goods and services procured by the Organiser of the World Expo 2025, Licensees, and Pavilion Organisers, the separate standards described below are provided from the viewpoint of sustainability, in addition to the Sustainability standards.

Licensees must ensure that these separate standards are complied with by the business operators directly engaged by them (hereinafter referred to as "Licensee-contracted business operators") by specifying necessary requirements in the specifications in relation to the business contract with these Licensee-contracted business operators or by implementing other appropriate measures. Similarly, Pavilion Organisers must ensure that the separate standards are complied with by their Pavilion-contracted business operators by specifying necessary requirements in the specifications in relation to the business contract with these Pavilion-contracted business operators or by implementing other appropriate measures.

Sustainable Procurement Standards for Wood Materials

1. The Procurement Standards apply to the following wood materials:

A. Lumber, composite wood, cross laminated timber, plywood, laminated veneer lumber, and flooring boards used as building materials

B. Plywood boards used for building concrete moulds

C. Wood used for furniture (except recycled timber offcuts and waste building materials)

2. The wood materials described in 1. above shall be required to meet the following (i) to (v) from the sustainability point of view. Regarding the plywood for concrete moulds, Suppliers shall make efforts to reuse these and also meet (i) to (v) in the reuse, where (i) is a mandatory requirement.

   (i) The timber should be logged through appropriate processes with reference to the forest-related laws and regulations of the country or territory where the tree is produced

   (ii) The timber derives from the forests that are maintained and managed based on mid-to-long-term plans or policies

   (iii) Logging is performed in such a way as the ecosystem is protected, the environmentally important areas, including quagmires and ancient woodlands, are appropriately conserved, and the timber is not from the forests converted into agricultural lands etc.

   (iv) The forests are utilised in such a manner that the rights of the Indigenous peoples and local residents are respected and agreements are formed by their free will based on sufficient prior information

   (v) The occupational health and safety are ensured for the workers employed for logging

3. Certified materials by FSC [Note 1], PEFC [Note 2], or SGEC [Note 3] are accepted in principle as highly compliant

with 2 (i) to 2 (v) above [Note 4].

4. Materials not applicable to 3. above must have a proof that they have been verified with reference to the requirements of 2 (i) to 2 (v) above by the methods described in Supplement.

5. When selecting wood materials with reference to 3. and 4. above, Suppliers [Note 5] shall be required to consider the greenhouse gas emissions attributed to the transportation of the wood materials, resource cycles in the local communities, and contributions to the stimulation of active local economies.

6. Suppliers shall keep for 5 years the documents concerning the above 3. certification and 4. proof of the wood materials they use and submit these if requested by the Organiser of the World Expo 2025.

7. Suppliers shall gather as much information as possible about their wood materials in terms of their places of origin and remarks on the producers, from the perspective of their traceability to the logging sites, and, while paying sufficient attention to the credibility and objectivity of such information, leverage it to lower the risk of procuring from wood material producers that do not satisfy above 2.

8. Based on the understanding of the Act on Promoting the Distribution and Use of Legally Harvested Wood and Wood Products, it is recommended that the business operators involved in any part of the process from logging, manufacture, distribution, etc. to the delivery to the Suppliers [Note 6] are registered wood-related business operators as per the Act, and Suppliers shall prefer the registered wood-related business operators as a source in their choices of the wood materials to which the Act applies, in order to lower the risk of the distribution of illegally-logged timber in Japan.

Note 1: The Forest Stewardship Council
Note 2: The programme for the Endorsement of Forest Certification schemes
Note 3: The Sustainable Green Ecosystem Council
Note 4: The Organiser of the World Expo 2025 shall verify the standard compliance of the materials even if they are certified materials should it judge them highly unlikely to comply with 2 (i) to 2 (v) above.
Note 5: Where Licensed merchandise is concerned, replace “Suppliers” with “Licensee-contracted business operators.” Concerning Goods and services procured by Pavilion Organisers, replace “Suppliers” with “Pavilion-contracted business operators” (the same applies hereafter).
Note 6: This is limited to the business operators in Japan that qualify as the registered wood-related business operator defined in the Act on Promoting the Distribution and Use of Legally Harvested Wood and Wood Products

Supplement (Ways to provide proofs for non-certified materials)

With reference to 4 of the Sustainable Procurement Standards for Wood Materials (hereinafter referred to as "the Procurement Standards"), details are given as follows:

(1) The point described in 2 (i) of the Procurement Standards shall be assessed legally with reference to the Guidelines for proving legality and sustainability of wood and wood products (issued 15 February 2006) by the Forestry Agency. Note that the legality of plywood for concrete moulds shall be proven in the same manner as the plywood frames provided for in the national government's Basic Policies concerning the Promotion of the Procurement of Environmental Goods (amended in the cabinet meeting of 2 February 2016).

(2) As to 2 (ii) to 2 (v) of the Procurement Standards, forest owners, forestry cooperatives, or material producers in the case of timbers produced in Japan, and importers in the case of imported timbers, shall verify the following by reasonable means from the accountability point of view and issue the Supplier with the documented results or a third-party audit report that proves the results.

(ii): Verify that the forests where the timber in question is produced are certified with forest management plans etc. or maintained and managed by their owners etc. based on their own plans.
(iii): If rare species of flora or fauna are found in the forests where the timber in question is produced, verify that measures to protect them are in place, including logging procedures. Where there are quagmires, ancient woodlands, or other important forest areas that need protection, verify that measures for their conservation are in place. Also verify that the forests will not be converted to agricultural lands etc.
(iv): If the forests where the timber in question is produced involve the rights of Indigenous peoples etc., verify that agreements are formed with them by their free will based on sufficient prior information.
(v): Verify that the workers engaged in logging the timber in question are provided with a working environment where their health and safety are ensured through, for example, the provision of health and safety education and mandatory use of appropriate safety equipment.

(3) Business operators in each stage of the distribution path from logging to delivery of timber shall issue a document (certificate) to the immediate point of delivery to prove that the delivered timbers have been verified of the points set forth in (2) above, and the issuance of a certificate should be repeated in this manner at every point of delivery.

(4) The operators of building mould installation shall be required to prove in writing if they are reusing plywood boards for concrete moulds that they have already been used more than once.

(5) Each business operator shall be required to keep relevant documents of the wood materials for 5 years, including the shipping records and certificates.

(2) Paper materials

Regarding the paper materials used for Goods and services procured by the Organiser of the World Expo 2025, Licensees, and Pavilion Organisers, the separate standards described below are provided from the viewpoint of sustainability, in addition to the Sustainability standards.

Licensees must ensure that these separate standards are complied with by their Licensee-contracted business operators by specifying necessary requirements in the specifications in relation to the business contract with them or by implementing other appropriate measures. Similarly, Pavilion Organisers must ensure that the separate standards are complied with by their Pavilion-contracted business operators by specifying necessary requirements in the specifications in relation to the business contract with these Pavilion-contracted business operators or by implementing other appropriate measures.

Sustainable Procurement Standards for Paper Materials

1. These procurement standards apply to the following paper materials (including Japanese paper *washi*): Posters, fliers, pamphlets, books/reports, tickets, certificates, printing paper, administrative notebooks, envelopes, business cards, toilet rolls, tissue paper, paper serviettes, paper bags, paper plates, paper cups, packaging boxes for Licensed merchandise, and wrapping paper

2. The paper materials described in 1. above shall be required to meet the following (1) to (3) from the sustainability perspective:
   (1) Recycled pulp is used to the maximum extent possible depending on the purpose and characteristics of the products. [Note 1]
   (2) Where non-recycled pulp (hereinafter referred to as “virgin pulp”) is used, its feedstocks (including the by-products of forest thinning, non-timber materials such as bamboos and reeds, and washi materials such as kozo (paper mulberry) and mitsumata (Oriental paperbush); excluding timber offcuts, waste building materials, woodland waste, and waste plant fibres) shall be required to satisfy the following (i) to (v):

(i) The timber etc. are logged or otherwise harvested through appropriate processes with reference to the laws and regulations relating to forests and other cultivation sites of the country or territory where they are produced.
(ii) The timber etc. derive from the forests or other cultivation sites that are maintained and managed based on mid-to-long-term plans or policies.
(iii) Logging and other cultivation activities are performed in such ways as the ecosystem is protected, the environmentally important areas, including quagmires and ancient woodlands, are appropriately conserved, and the forests are not converted to agricultural lands etc.
(iv) The forests etc. are utilised in such a manner that the rights of the Indigenous peoples and local residents are respected and agreements are formed with them by their free will based on sufficient prior information.

(v) The occupational health and safety are ensured for the workers employed for logging or cultivation.

(3) Depending on the purposes and characteristics of the products, the paper should not be brightened excessively, printed excessively, or processed in such a way that makes paper recycling difficult. [Note 2]

3. The paper from virgin pulp shall be accepted as satisfying 2 (2) (i) to 2 (2) (v) above if it is FSC or PEFC (including SGEC) certified paper [Note 3]. If paper other than these certified papers is required, the points (i) to (v) must be verified about the timber etc. that are used to produce the virgin pulp as specified in Supplement.

4. Suppliers [Note 4] shall keep the documents concerning the above 2 (i) to (iii) for 1 year following the end of the Expo and submit these if requested by the Organiser of the World Expo 2025.

5. Suppliers shall gather as much information as possible about their paper feedstocks in terms of their places of origin and remarks on the producers, from the perspective of their traceability to the logging sites, and, while paying sufficient attention to the credibility and objectivity of such information, leverage it to lower the risk of procuring from paper producers that do not satisfy 2. above.

6. Based on the understanding of the Act on Promoting the Distribution and Use of Legally Harvested Wood and Wood Products, it is recommended that the business operators involved in any part of the process from logging, manufacture, distribution, etc. to the delivery to the Suppliers [Note 5] are registered wood-related business operators as per the Act, and Suppliers shall prefer the registered wood-related business operators as a source in their choices of the paper to which the Act applies, in order to lower the risk of the distribution of illegally-logged timber in Japan.

Notes 1 and 2: Printing paper, administrative notebooks, etc. may be subject to designated recycled pulp content and brightness with reference to the Osaka Prefectural Government's Green Procurement Policy.
Note 3: Certificates of Conformity (CoC) must be consecutive.
Note 4: Where Licensed merchandise (including the packaging boxes for Licensed merchandise) is concerned, replace "Suppliers" with "Licensee-contracted business operators." Concerning Goods and services procured by Pavilion Organisers, replace "Suppliers" with "Pavilion-contracted business operators" (the same applies hereafter).
Note 5: This is limited to the business operators in Japan that qualify as the registered wood-related business operator defined in the Act on Promoting the Distribution and Use of Legally Harvested Wood and Wood Products

Supplement (Ways to verify non-certified paper)

With reference to the latter provision in 3 of the Sustainable Procurement Standards for Paper Materials (hereinafter referred to as “the Procurement Standards”), details are given as follows:

As to 2 (2) (i) through to (v) of the Procurement Standards, paper producers in the case of paper produced in Japan, and importers in the case of importing paper produced abroad, shall verify the following by reasonable means from the accountability point of view and issue the Suppliers with the documented results or a third-party audit report that proves the results.

(i): Verify that the timber etc. in question is logged or otherwise harvested through appropriate processes with reference to the laws and regulations relating to forests and other cultivation sites of the country or territory where they are produced.

(ii): Verify that the forests etc. for the production and harvest of the timber etc. in question are certified with forest management plans etc. or the landowner etc. have plans or policies for management and maintenance of the sites.

(iii): If rare species of flora or fauna are found in the forests etc. where the timber etc. in question are produced and harvested, verify that measures to protect them are in place, including logging procedures. Where there are quagmires, ancient woodlands, or other important forest areas that need protection, verify that measures for their conservation are in place. Also verify that the sites will not be converted to agricultural lands etc.

(iv): If the forests etc. where the timber etc. in question are produced and harvested involve the rights of Indigenous peoples etc., verify that agreements are formed with them by their free will based on sufficient prior information.

(v): Verify that the workers engaged in logging and harvesting the timber etc. in question are provided with a working environment where their health and safety are ensured through, for example, the provision of health and safety education and mandatory use of appropriate safety equipment.

Main references

> International agreements and codes of conduct

- The 2030 Agenda for Sustainable Development (Sustainable Development Goals: SDGs)
- Paris Convention
- The Universal Declaration of Human Rights
- The ILO Core Labour Standards
- The ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy
- The ILO Declaration on Fundamental Principles and Rights at Work and the follow-up of the Declaration
- The OECD Guidelines for Multinational Enterprises
- The OECD Due Diligence Guidance for Responsible Business Conduct
- The UN Guiding Principles on Business and Human Rights
- The International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)
- The International Convention on Civil and Political Rights (ICCPR)
- The International Convention on Economic, Social and Cultural Rights (ICESCR)
- The Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (the Torture Convention)
- The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)
- The Convention on the Rights of the Child (CRC)
- The Convention on the Rights of Persons with Disabilities (CRPD)
- The International Convention for the Protection of All Persons from Enforced Disappearance (ICPPED)
- The Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others (the Convention for the Suppression of the Traffic in Persons)
- The UN Declaration on the Rights of Indigenous Peoples

> Other international initiatives, standards, guidance, etc.

- The United Nations Global Compact
- The Children's Rights and Business Principles
- ISO 20121:2012 Event sustainability management systems — Requirements with guidance for use
- ISO 26000:2010 Guidance on social responsibility
- ISO 20400:2017 Sustainable procurement — Guidance
- The Handbook for Business Management that Respects Human Rights, the Japan Business Federation
- The Introduction to Environmental Due Diligence in Value Chain—with reference to OECD guidance, the Ministry of Environment of Japan
- International Labour Standards and Sustainable Sourcing Handbook, ILO and the Tokyo Organising Committee of the Olympic and Paralympic Games

Preparation process

The Organiser of the World Expo 2025 deliberated the procurement code in a working group mainly comprising experts of the environment, human rights, labour issues, CSR, etc. In the process of deliberation, the working group consulted the public in an effort to have the code reflect a diversity of opinions and feedback.

Revisions

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[i] [iii]These may be based, but not exclusively, on the person's skin colour, language, political and other opinions, national or social background, and financial assets.

[ii] The principles refer to the four principles proclaimed in the 1998 ILO Declaration on Fundamental Principles and Rights at Work and the follow-up of the Declaration (i. freedom of association and the effective recognition of the right to collective bargaining; ii. the elimination of all forms of forced or compulsory labour; iii. the effective abolition of child labour; and iv. the elimination of discrimination in respect of employment and occupation).

[iv] Concerning foreign technical interns, the Act on Proper Technical Intern Training and Protection of Technical Intern Trainees (Act No. 89 of 2016) has entered into force since November 2017, for the purposes of strengthening the supervision of the supervising and implementing organisations as well as of the protection etc. of technical intern trainees.

[v] "The OECD Due Diligence Guidance for Responsible Business Conduct" describes the due diligence process and supporting measures in the following steps: (1) Embed responsible business conduct into policies and management systems; (2) Identify and assess actual and potential adverse impacts associated with the enterprise's operations, products or services; (3) Cease, prevent and mitigate adverse impacts; (4) Track implementation and results; (5) Communicate how impacts are addressed; and (6) Provide for or cooperate in remediation when appropriate.
Actual due diligence practices will be effective when conducted in a risk-based approach. Given that the impacts and risks of business activities considerably vary across different business areas, countries/territories, and operational sizes, this approach recommends that enterprises assess the risks to sustainability associated with their business activities and prioritise the areas in which the risks of adverse impacts are high, in order to address them, rather than taking a course of predetermined actions to the items in the Sustainability standards. As a prerequisite to adopting this approach, it is necessary to appropriately review and assess the sustainability risks in terms of the severity and likelihood of the negative impacts which their pursuit of business may impose on stakeholders such as local residents, workers, and consumers.
Following cases are some examples of required efforts:

- Assess and analyse the risks and opportunities associated with the enterprise's business activities and identify the business areas and supply chains of high importance.
- Provide the supply chain with a procurement guideline, specifying the requirements in relation to the environment, human rights, labour, and compliance.
- Ensure that, when concluding a new contract or renewing one with companies in the supply chain, the business contract has a provision that clearly mandates human rights due diligence.
- Conduct questionnaire surveys and verify various initiatives implemented in the supply chain in relation to the environment, human rights, labour, and other areas. Also, request members of the supply chain to practice the same initiative towards their upstream supply chains. Provide low-performing supply chains with instructions and training for improvement.
- Provide suppliers with support for developing management systems and rules by, for example, offering employee training materials and consultancy.
- Request major supply chains to conduct self-inspections using the CSR promotion guidebooks and self-

assessment sheets prepared by the industry association.

- Provide relevant personnel within the organisation with expert instructions and training on supplier guidelines and supply chain management.
- Implement a dedicated office to receive reports on actual or potential deviation from the supplier guidelines or violation of applicable domestic/international laws and regulations.
- Regularly disclose the number of deviations from the supplier guidelines, results of supply chain survey, etc.

For more details, refer to relevant documents such as *The Handbook for Business Management that Respects Human Rights* by the Japan Business Federation, *The Introduction to Environmental Due Diligence in Value Chain—with reference to OECD guidance* by the Ministry of Environment of Japan, *International Labour Standards and Sustainable Sourcing Handbook* by ILO and The Tokyo Organising Committee of the Olympic and Paralympic Games, and ISO 20400 Sustainable procurement—Guidance.

Japan Association for the 2025 World Exposition

Construction and Demolition Work Guidelines for Self-Built Pavilions (Type A)

GL 4-7-1 June 2022

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Abbreviation/Short Title	Official Name
BIE	Bureau International des Expositions
BIM	Building Information Modeling
EPS	Electric Pipe Space/Shaft
Unit	Official Name
Ha	Hectare
km	Kilometre
m	Metre
m^2	Square metre
kW	Kilo watt
%	Percent
kVA	Kilovolt-ampere
Hz	Hertz
Term	Definition
The Expo	Expo 2025 Osaka, Kansai, Japan that is scheduled to be held from the 13th of April to the 13th of October, 2025 in Osaka, Japan
Laws and Regulations	The Convention; the General Regulations; the Special Regulations; the laws of Japan; government ordinances; ministry ordinances; government notifications and notices; ordinances, rules and regulations of local governments; Guidelines, supplementary instructions and directives on administrative procedures, documents to be submitted, the details of rights and responsibilities of Participants and the Organiser and other items issued by the Organiser pursuant to the General Regulations and Special Regulations
General Regulations	The General Regulations included in Chapter 8 of the Registration Dossier approved at the 167th General Assembly of the BIE
Special Regulations	The Special Regulations set out in Article 34 of the General Regulations
Site Master Plan	A detailed plan that presents the overview of various property elements, spaces, buildings and other facilities within the Expo Site
Pavilions	Buildings in which Official Participants and Non-official Participants present their exhibitions, which include: Type-A (Self-Built) Pavilions, Type B (Organiser-Built (Module)) Pavilions and Type C (Organiser-Built Shared) Pavilions, as well as any space related to the buildings that are directly under their control
Type-A (Self-Built) Pavilions	Buildings/structures that Official Participants and Non-official Participants design and build on the Plot assigned to them by the Organiser
Pavilion Modules	Buildings built by the Organiser and rented to Official Participants, who can make their own interior and exterior arrangements and install their exhibits

Shared Pavilions	Buildings built by the Organiser and offered to Official Participants, who can arrange the space allocated to them and install their exhibits therein
Expo Site	All areas used and administered by the Organiser as the venue for the operation of the Expo
Plots	The areas of land allocated by the Organiser to Official Participants and Non-official Participants, in accordance with the Participation Contract and kept under their own control to use
Exhibition Space	The area assigned by the Organiser to the Participants as specified in the participation contract
One Stop Shop (General Consultation Point)	The staffed service points set up and operated by the Organiser for the purpose of centrally handling all submissions and applications from Official Participants and providing advice and other support with the help of the Participant Portal, to ensure that the Official Participants are able to smoothly pursue their activities and work in relation to the Expo
The online portal for the Official Participants	The online portal that enables smooth communication between Official Participants and One Stop Shop
Organiser	The Japan Association for the 2025 World Exposition, which was designated by the Minister of Economy, Trade and Industry on the 31st of May, 2019 to carry out tasks relating to the preparation and operation of the Expo, in accordance with the "Act on Special Measures Necessary for Preparing for and Managing of the International Exposition in 2025" and certified as a public interest incorporated association on the 21st of October, 2019
Participants	Official Participants and Non-official Participants. Official Participants means foreign governments and international organisations that have accepted the formal invitation from the Government of Japan to participate in the Expo. Non-official Participants means those who were authorised by the Commissioner General of the Exhibition to participate in the Expo outside the sections of the Official Participants
Communication and Coordination Council	A body that enables smooth coordination, etc. at the Expo Site where multiple construction works are implemented at the same time
General Contractor	A construction company that oversees and manages the Communication and Coordination Council that is established by the Organiser.
Related Institutions	Institutions that handle procedures in relation to construction work and design pursuant to the relevant Laws and Regulations in Japan
Application for a Building Permit	It is set out in Article 6 of the Building Standards Act. When any building is intended to be constructed, prior to the commencement of the related construction, the building owner must submit an application for confirmation that the plan

	concerned conforms to the provisions related to building regulations and obtain the said confirmation from a building official.
Permit for Commencement of Construction	A permit issued by the Organiser to Participants to approve of the commencement of construction in accordance with the approved design submitted by the designer
Final Inspection	An inspection by a building official as set out in Article 7 of the Building Standards Act as well as an inspection by the Organiser upon the completion of the construction work
Certificate of Final Inspection	It is set out in Article 7, paragraph (5) of the Building Standards Act. A certificate that is issued by the building official when he/she has conducted the Final Inspection set out in Article 7 of the Building Standards Act and confirmed that the relevant building conforms to the provisions related to building regulations
Certificate of Completion	A certificate that is issued by the Organiser only after a Participant has completed the construction work of its building and the relevant exterior spaces which then passes the Organiser's Final Inspection that the said Participant applies for
User's Permit	A permit that is issued only after a Participant has completed all of the exhibition-related work and installed all the exhibits which then passes the Organiser's inspection that the said Participant applies for
Permit for Commencement of Demolition/Removal Work	The Organiser's permit a Participant must obtain to commence demolition/removal work
Return of Plot	A procedure where Participants return their Plot to the Organiser after the demolition/removal of their exhibits and Pavilion
Return of Exhibition Space	A procedure for Participants' return of Exhibition Spaces to the Organiser after they have completed the demolition/removal work of their exhibits as well as the interior/exterior
Attestation of Return of Plot	An attestation with which the Organiser provides a Participant when the Organiser confirms that the Plot of the Participant concerned is restored following the completion of demolition/removal work
Attestation of Return of Exhibition Space	An attestation with which the Organiser provides a Participant when the Organiser confirms Exhibition Space of the Participant concerned is restored following the completion of demolition/removal work
Plot Sheet	An information document with which the Organiser provides Participants detailing the specifics of the allocated Plot, including the details of the Plot, advice on design, the location/coordinates of the Plot, the distribution of electricity, gas and water supply, and the locations of connection points for utilities within the Plot

Execution Areas	Shared temporary areas that are secured in the Expo Site in which building material yards, temporary drinking fountains and other facilities are established
Load/Unload Control System (provisional name)	A system that controls the access of commuter/transportation vehicles to the Expo Site
Conditions for Driving Permission in umeshima Island	Operation rules for construction vehicles within construction areas in umeshima Island
JAS	Japanese Agricultural Standard. A standard to provide agricultural, forestry, fisheries and livestock products with quality assurance, pursuant to the Law Concerning Standardization, etc. of Agricultural and Forestry Products
JIS	Japanese Industrial Standards. Japanese national standards pursuant to the Industrial Standardization Act, which defines specifications and measurement of industrial products in Japan
Environmental Impact Assessment Preparation Document	A document prepared by the Organiser that presents the results of its research, forecast, and assessment based on the environmental impact assessment system and defines its policy on environmental conservation
Environmental Impact Assessment Document	A document developed by the Organiser by amending the Environmental Impact Assessment Preparation Document as necessary after reviewing opinions of those who have a certain view on the aforementioned document from an environmental conservation perspective as well as the opinions of prefectural governors and similar authorities
Policy on the Sustainable Operation of the Expo	A policy established by the Organiser to realize the Expo that takes account of sustainability
Procurement Code	A code established by the Organiser that defines standards and methods, etc. to ensure that any related procurement activity complies with the Laws and Regulations; prevents environmental problems such as global warming and resource depletion and the infringement of human/labour rights; promotes equitable business practices; and invigorates local communities in order to achieve the Expo that takes account of sustainability
Fire Fighting Equipment, etc.	Equipment, etc. that are set out in Article 17 of the Fire Service Act
Utilities	Infrastructure-related facilities such as a water supply system, electricity, a sewage system (sewage and rainwater drainage), communication wiring, fire alarms, and cooling water

This Guidelines document describes requirements to be fulfilled by Participants when they carry out the construction and demolition/removal work of Self-Built Pavilions for the Expo as well as issues relating to the management of such work by the Organiser.

The “Construction and Demolition Work Guidelines for Self-Built Pavilions” is developed to foster awareness of the requirements for, and the standards of the construction and demolition/removal work. While the “Design Guidelines for Type A (Self-Built) Pavilions” focuses on the design of Pavilions, this Guidelines document focuses on the construction and demolition/removal work thereof.

The purposes of this Guidelines document are as follows:

- To provide clear guidance to enable the smooth implementation of construction and demolition/removal work while many contractors execute work at the Expo Site at the same time.
- To explain the flow of the construction work of Pavilions and clarify requirements and procedures to be followed.
- To comply with what is stated in the Environmental Impact Assessment Document and ensure that construction and demolition/removal work takes account of sustainability.

  What is set out in this Guidelines document supplements Special Regulation No. 4.

This Guidelines document consists of the following Chapters:

Chapter 1: Overview of Overall Process From Construction Through Demolition/Removal of Buildings and Return of Plot

It defines requirements at each phase from the construction of a Pavilion through the demolition/removal thereof that the Organiser requires that Participants satisfy.

Chapter 2: Rules and Management of Construction Work Within Expo Site

It defines rules on construction work and requirements for its management with the aim of supporting Participants during the construction work of Pavilions.

Chapter 3: Requirements for Fire Prevention and Security

It defines required Fire Fighting Equipment, etc. for fire prevention and security as well as requirements for security of Pavilions.

Chapter 4: Access to Utility Services

It defines requirements for access to utility services such as a water supply system, a sewage system (sewage and rainwater drainage), electricity, communication wiring, and cooling water.

Chapter 5: Securing of Occupation Safety and Health

It defines requirements for safety, hygiene, and working environment at the construction sites.

Chapter 6: Sustainability Efforts

It describes sustainability efforts and the environmental impact assessment system (environmental assessment system).

Chapter 7: Information Management System and Compliance with Quality Control

It defines an information management system that the Participants must establish as well as the procedures of communication and requirements for quality control.

Chapter 8: Demolition/Removal Work and Return of Plot

It defines requirements for procedures and rules in relation to demolition/removal work and the return of the allocated plot.

Chapter 9: Procedures for Notifications, Approval and Permits

It defines requirements for key procedures pursuant to this Guidelines document and the relevant Laws and Regulations in Japan.

This document provides two types of indices—Control or Guide—to help Participants to construct and demolish/remove their Pavilions in compliance with this Guidelines document. The Organiser will also use these indices when it approves and permits documents submitted by Participants.

Alphanumeric codes are used to designate Control and Guide.

C-000 Control defines requirements that Participants must comply with and defines requirements as well as what is restricted or prohibited when planning and implementing the construction and demolition/removal work of their Pavilions.

G-000 Guide indicates the Organiser's recommendation to Participants to ensure that the construction and demolition/removal work of their Pavilions per se is in alignment with the purposes and objectives of the Expo.

Participants must perform the construction work of their Pavilions in compliance with relevant Japanese Laws and Regulations, ordinances of Osaka Prefecture and Osaka City, and other Laws and Regulations.

> Building Standards Act and Order for Enforcement of the Act

(Building Standards Act) https://elaws.e-gov.go.jp/document?lawid=325AC0000000201

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=325CO0000000338

> Act on Architects and Building Engineers and Order for Enforcement of the Act

(Act on Architects and Building Engineers) https://elaws.e-gov.go.jp/document?lawid=325AC1000000202

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=325CO0000000201

> Fire Service Act and Order for Enforcement of the Act

(Fire Service Act) https://elaws.e-gov.go.jp/document?lawid=323AC1000000186

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=336CO0000000037

> Construction Business Act and Order for Enforcement of the Act

(Construction Business Act) https://elaws.e-gov.go.jp/document?lawid=324AC0000000100

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=331CO0000000273

> Labor Standards Act and Ordinance for Enforcement of the Act

(Labor Standards Act) https://elaws.e-gov.go.jp/document?lawid=322AC0000000049

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=322M40000100023

> Industrial Safety and Health Act, Order for Enforcement of the Act, and Ordinance on Industrial Safety and Health

(Industrial Safety and Health Act) https://elaws.e-gov.go.jp/document?lawid=347AC0000000057

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=347CO0000000318

(Regulation) https://elaws.e-gov.go.jp/document?lawid=347M50002000032

> Construction Material Recycling Act and Order for Enforcement of the Act

(Construction Material Recycling Act) https://elaws.e-gov.go.jp/document?lawid=412AC0000000104

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=412CO0000000495

> Waste Management and Public Cleansing Act (Waste Management Act) and Order for Enforcement of the Law

(Waste Management Act) https://elaws.e-gov.go.jp/document?lawid=345AC0000000137

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=346CO0000000300

> Basic Act on the Environment

(Basic Act on the Environment) https://elaws.e-gov.go.jp/document?lawid=405AC0000000091

> Air Pollution Control Act and Order/Regulation for Enforcement of the Act

(Air Pollution Control Act) https://elaws.e-gov.go.jp/document?lawid=343AC0000000097

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=343CO0000000329

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=346M50000500001

> Soil Contamination Countermeasures Act and Order/Regulation for Enforcement of the Act

(Soil Contamination Countermeasures Act) https://elaws.e-gov.go.jp/document?lawid=414AC0000000053

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=414CO0000000336

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=414M60001000029

> Noise Regulation Act and Order/Regulation for Enforcement of the Act

(Noise Regulation Act) https://elaws.e-gov.go.jp/document?lawid=343AC0000000098

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=343CO0000000324

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=346M50014d00001

> Vibration Regulation Act and Order/Regulation for Enforcement of the Act

(Vibration Regulation Act) https://elaws.e-gov.go.jp/document?lawid=351AC0000000064

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=351CO0000000280

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=351M50000002058

> Act for Promoting Easily Accessible Public Transportation and Facilities for the Aged and the Disabled (Barrier-Free Act) and Order/Regulation for Enforcement of the Act

(Barrier-Free Act) https://elaws.e-gov.go.jp/document?lawid=418AC0000000091

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=418CO0000000379

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=418M60000800110

> Landscape Act and Order/Regulation for Enforcement of the Act

(Landscape Act) https://elaws.e-gov.go.jp/document?lawid=416AC0000000110

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=416CO0000000398

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=416M60000800100

> Act on the Measures by Large-Scale Retail Stores for Preservation of Living Environment and Order/Regulation for Enforcement of the Act

(Act on the Measures by Large-Scale Retail Stores for Preservation of Living Environment) https://elaws.e-gov.go.jp/document?lawid=410AC0000000091

(Order for Enforcement) https://elaws.e-gov.go.jp/document?lawid=410CO0000000327

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=411M50000400062

> Entertainment Facilities Act and Regulation for Enforcement of the Act

(Entertainment Facilities Act) https://elaws.e-gov.go.jp/document?lawid=323AC0000000137

(Regulation for Enforcement) https://elaws.e-gov.go.jp/document?lawid=323M40000100029

> Osaka Prefectural Ordinance on the Enforcement of the Building Standards Act and Detailed Regulations

(Ordinance) https://www.pref.osaka.lg.jp/houbun/reiki/reiki_honbun/k201RG00000834.html

(Detailed Regulations) https://www.pref.osaka.lg.jp/houbun/reiki/reiki_honbun/k201RG00000835.html

> Osaka Prefectural Ordinance on Welfare Communities and Regulation for Enforcement of the Ordinance

(Ordinance) https://www.pref.osaka.lg.jp/houbun/reiki/reiki_honbun/k201RG00000861.html

(Regulation for Enforcement) https://www.pref.osaka.lg.jp/houbun/reiki/reiki_honbun/k201RG00000862.html

> Osaka Prefectural Ordinance on Maintenance of Living Conditions and Regulation for Enforcement of the Ordinance

(Ordinance) https://www.pref.osaka.lg.jp/houbun/reiki/reiki_honbun/k201RG00000392.html

(Regulation for Enforcement) https://www.pref.osaka.lg.jp/houbun/reiki/reiki_honbun/k201RG00000393.html

> Osaka Municipal Ordinance on the Enforcement of the Building Standards Act and Regulation for Enforcement of the Ordinance

> Osaka Municipal Ordinance on Fire Prevention and Regulation for Enforcement of the Ordinance

> Osaka Municipal Government Guidelines for Accessible Urban Planning https://www1.g-reiki.net/reiki37e/reiki.html

* Please refer to the Osaka municipal code of regulations.

Furthermore, Participants shall comply with, and refer to various Guidelines documents, including this Guidelines document, and materials that are provided by the Organiser, or other standards, etc. that are relevant to what Participants plan to carry out.

Participants must perform the construction work of their Pavilions in compliance with the documents below. Please refer to Chapter 6 for more information.

- Environmental Impact Assessment Preparation Document and Environmental Impact Assessment Document
- Policy on the Sustainable Operation of the Expo
- Sustainable Procurement Code

This Chapter defines requirements at each phase from the construction of a Pavilion through the demolition/removal thereof that the Organiser requires that Participants satisfy.

The Organiser will set up a One Stop Shop that centrally supports procedures at a variety of stages from the preparation phase of the exhibition through the removal of building materials after the Expo to assist Official Participants.

The One Stop Shop (General Consultation Point) consists of an online Participant Portal and staffed service points and handles requests, inquiries, applications and demands from Official Participants and provides necessary services.

- Responding to technical inquiries;
- Handling the procedures for design and construction work specified in this Guidelines document; and
- Offering consultation on the procedures required by the Related Institutions in Japan.

"The online portal for the Official Participants" is only for the Official Participants. Regarding matters described in this Guidelines to be submitted through the online portal for the Official Participants, procedures and service provision for those other than the Official Participants will be determined separately.

C-001 Participants shall implement their plan in accordance with the following timeline:

Please note that the average lead time from document submission to approval and the number of days to the deadlines described in this Guidelines document hereafter refer to the number of days exclusive of Saturdays, Sundays, national holidays, and other day-offs that the Organiser specifies.

(Legend: Required procedure Deadline)

First submission (the general Design Plan)
Second submission (the final Design Plan)
Handover of the allocated Plot: To be completed from the 13th of April, 2023
Permit for Commencement of Construction
Construction work : To be completed by the 13th of July, 2024
Interior refurbishment and final finishing work : To be completed by the 13th of January, 2025
Completion of construction work (User's Permit)
Installation of exhibits : To be completed by the 13th of March, 2025
Completion of exhibit installation (User's Permit)
The Expo period : From the 13th of April to the 13th of October, 2025
Permit for Commencement of Demolition/Removal Work
Return of Plot : To be completed by the 13th of Aril, 2026

C-002 Participants shall, whenever they change the work schedule they submitted, submit updated work schedule to the Organiser via the online portal for the Official Participants. The work schedule shall describe the details of construction and demolition/removal work.

C-003 Participants shall have signed the Participation Contract before the Organiser handovers the Plot allocated to them.

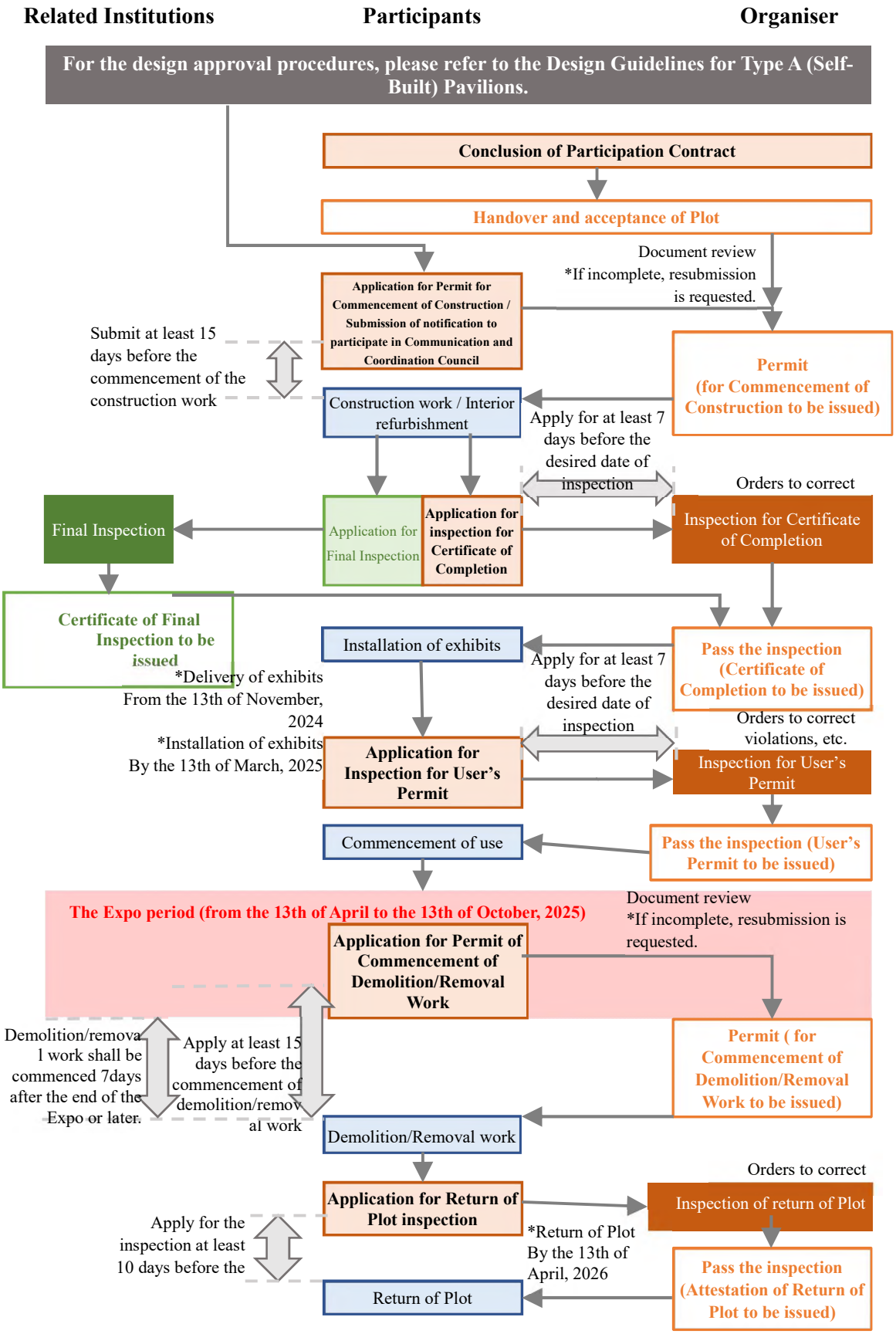
Please refer to the Design Guidelines for Type A (Self-Built) Pavilions for requirements for design, the Plot Sheet, and the submission of Design Plans.

C-004 Participants shall, when they desire to change the design of their Pavilion, submit a Design Plan set out in the Design Guidelines for Type A (Self-Built) Pavilions and obtain the Organiser's approval. However, if the Organiser considers that the design change is immaterial (as it clearly complies with the Guidelines), the Organiser's approval is not required. The Design Plan shall be submitted to the Organiser via the online portal for the Official Participants.

C-005 Please note that if the design change involves change in floor area or reconstruction, it is required to be notified to the Japan Customs in advance. Therefore, prior to the commencement of the related construction work, Participants shall prepare the Organiser-designated documents and submit them to the Organiser, in addition to the procedure described in C-004. The Organiser will submit the documents to the Japan Customs.

Participants shall apply for required permit and inspection at each phase in accordance with the flow shown in Figure 1.1. For the details of the procedures, please refer to Chapter 9.

Figure1.1 Flow of Approval and Authorisation



Participants may choose a construction supervisor from among the supplier list for the Official Participants.

C-006 In such a case, Participants shall appoint a construction supervisor who belongs to a registered architect's office and is qualified as an architect.

C-007 Participants shall submit the information of the appointed construction supervisor to the Organiser via the online portal for the Official Participants at least 15 days before the commencement of the construction work.

Participants may choose contractors from among the supplier list for the Official Participants.

C-008 In such a case, Participants shall appoint contractors that are registered with the permit under the Construction Business Act and employ qualified staff. Participants shall also appoint field supervisors.

C-009 Participants shall submit the information of the appointed contractors and field supervisors to the Organiser via the online portal for the Official Participants at least 15 days before the commencement of the construction work.

C-010 All the contractors must take out following insurance for their construction work for the period of the work concerned. For further information, please refer to Special Regulation No. 8, which defines requirements for insurance, and the related Guidelines. Participants and their contractors shall have shared responsibility for insurance for the construction work within their Plot.

- Workman's compensation
- Motor insurance
- Employment insurance
- Social insurance (health insurance and employees' pension insurance)
- Insurance in respect to construction, assembly, as well as civil engineering work on buildings, structures, and equipment and apparatus
(including civil liability endorsement)

C-011 Participants and their contractors shall submit the copy of the required insurance policies to the Organiser via the online portal for the Official Participants at least 15 days before the commencement of the construction work.

G-001 It is desirable that contractors take out the following insurance. For further information, please refer to Special Regulation No. 8, which defines requirements for insurance, and the related Guidelines.

- Automobile insurance (to be taken out as a supplement to the motor insurance if necessary)
- Bond insurance
- Non-life insurance

- Labour accident compensation insurance (to be taken out as a supplement to the workman's compensation if necessary)
- Cyber risk insurance

C-012 Participant shall obtain the Permit for Commencement of Construction from the Organiser via the online portal for the Official Participants. The application shall be made at least 15 days before the scheduled commencement date of the construction work. The application shall be accompanied by required documents. For further information, please refer to Chapter 9.

Participants may commence the construction work only after the Permit for Commencement of Construction is issued by the Organiser. For further information, please refer to Chapter 9.

C-013 Participants shall complete their construction work, interior refurbishment and the final finishing work, and the installation of exhibits by the designated dates specified in "1-2. Timeline" herein. The work schedule of the Organiser (for reference only) is available on the online portal for the Official Participants.

C-014 Participant shall follow the rules and procedures specified by the Organiser for the customs clearance, and the transportation and handling of freight. For further information, please refer to Special Regulation No. 7, related Guidelines, and other relevant documents. The "Guidelines for Handling of Freight" (provisional title) is planned to be developed in the future.

C-015 Upon the completion of exhibit installation, Participants shall carry out trial and test operation and apply for an inspection to the Organiser to obtain the User's Permit.

G-002 It is desirable that Participants establish procedures for the trial and test operation. The Organiser may request that Participants should present the procedures to the Organiser.

C-016 Participants shall complete the demolition/removal of their Pavilions and restore the Plot and return it to the Organiser by the designated dates specified in "1-2. Timeline" herein. For further information, please refer to Chapter 8.

C-017 Participant shall follow the rules and procedures specified by the Organiser for the customs clearance, and the transportation and handling of freight. For further information, please refer to Special Regulation No. 7, related Guidelines, and other relevant documents. The "Guidelines for Handling of Freight" (provisional title) is planned to be developed in the future.

The following are documents concerning this Chapter that the Organiser requires Participants to submit. The documents are to be submitted to the Organiser via the online portal for the Official Participants. Designated formats for documents to be submitted will be made available on the online portal for the Official Participants.

Names of documents to be submitted:

- Work schedule of the construction work of the Pavilion (in case of change in schedule) (1-2)
- Notification of immaterial change (in case of immaterial change) (1-3)
- Notification of change in floor area (in case of change in floor area) (1-3)
- Notification of the selection of a construction supervisor (1-5)
- Notification of contractors and field supervisors (1-6)
- Notification of insurance taken (1-7)

- Design Guidelines for Type A (Self-Built) Pavilions (for Official Participants)
- Appendix for the Design Guidelines for Type A (Self-Built) Pavilions

This Chapter defines rules of construction work within the Expo Site and requirements and recommendation for its management with the aim of supporting Participants during the construction of their Type-A (Self-Built) Pavilions.

The Organiser established the key rules of construction work and required work management within the Expo Site in this Chapter in order to enable Participants to construct a Pavilion in their allocated Plot in the way that is consistent with the construction plan for the entire Expo Site. Participants shall also comply with other rules of construction work that are separately established by the Organiser outside of this Guidelines document.

The Organiser will establish a construction plan for the entire Expo Site, including required management system for the construction work of the entire Site, temporary work-related facilities that may be used by all of the contractors, and traffic control system for construction/commuter vehicles. Participants and their contractors shall comply with the construction plan for the entire Expo Site in executing their work on the Plot.

2-1-1. Communication and Coordination Council

As construction/infrastructure work for multiple facilities, including Pavilions, are carried out within the Expo Site at the same time, it is important to coordinate such work conducted by various contractors, monitor and control the progress of each work, control the traffic of construction/commuter vehicles, and ensure compliance with the rules of construction work, etc. In addition, other projects, including that for IR, are ongoing in umeshima Island, and thus coordination with parties involved in umeshima-related work is necessary. In order to ensure smooth coordination among contractors, including those who are involved in the non-Expo projects in umeshima, the Organiser will establish the Communication and Coordination Council, that is led by the Organiser-appointed General Contractor (construction company). The following are key features of the Communication and Coordination Council, etc.

- The Organiser plans to establish two types of Communication and Coordination Councils by the end of F 2022, before construction work is commenced: the Expo Site Communication and Coordination Council, which is responsible for ensuring compliance with the rules of construction work within the Expo Site and facilitating coordination for the work on the Site; and sectional Communication and Coordination Councils, which are responsible for facilitating coordination for the work in the Organiser-designated sections within the Site. (Hereinafter the “Communication and Coordination Council,” for both the Expo Site Communication and Coordination Council and the sectional Communication and Coordination Councils.)

- The Communication and Coordination Council is, as the Organiser-appointed General Administrator, expected to give the Expo Site (sectional) General Contractors appointed by the Organiser instructions and work with them through reporting, communication and coordination as necessary.

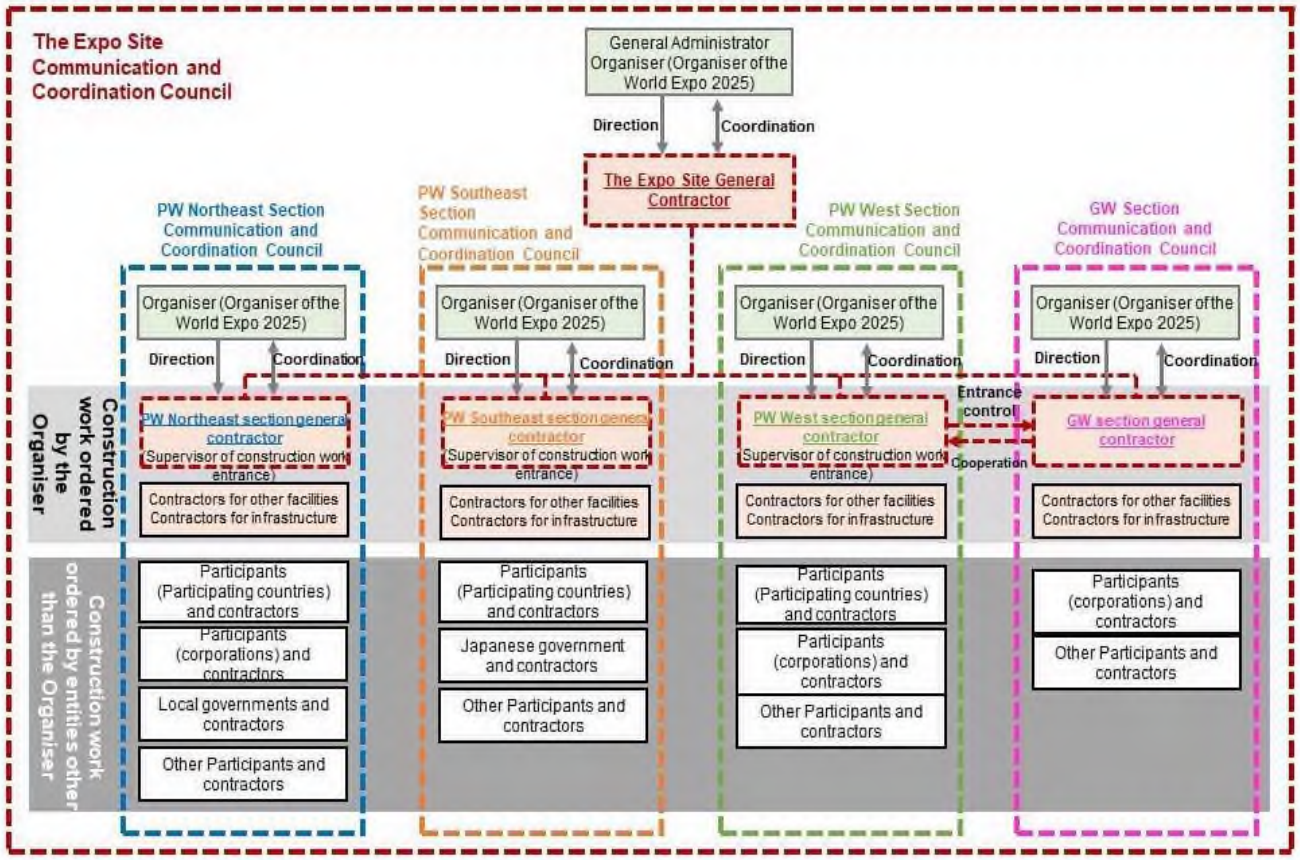
- The Communication and Coordination Council consists of the Organiser, General Contractors, Participants and their contractors, and other contractors that perform the construction work of facilities and infrastructure that the Organiser takes responsibility to prepare.

- The Organiser and the General Contractors, through the Communication and Coordination Council, have responsibility and authority to collect the opinions of contractors concerning what should be coordinated to perform the construction work and coordinate these contractors in line with this Guidelines document and the Organiser-established and approved rules of construction work discussed later.

- Each contractor shall report what should be coordinated to perform the construction work to the General Contractor in meetings, etc. held by the Communication and Coordination Council and the results of the coordination will be communicated to Participants and their contractors.

- The rules of the construction work, which is established by the Organiser outside of this Guidelines document, are communicated via the Communication and Coordination Council as well.

Figure 2.1 Schematic Diagram of Communication and Coordination Council



C-018 Participants and their contractors shall participate in the Communication and Coordination Council of the section their Plot belongs to. Participants shall submit a notification to participate in the relevant Communication and Coordination Council that confirms their participation therein. (Please refer to Chapter 9.) Participants shall offer cooperation to ensure the smooth site development in compliance with the rules established by the Organiser and according to the instructions of the General Contractor. In

addition, Participants or their contractors shall attend the meetings the Organiser specifies.

C-019 Participants and their contractors shall comply with the rules of construction work that are separately established by the Organiser in addition to the rules set out in this Guidelines document. The following are the key rules that the Organiser plans to establish.

- Rules for construction vehicles (the number of vehicles and entry/exit control)
- Rules for commuter vehicles (restriction on the use of private cars)
- Routes for construction vehicles and traffic rules within the Site
- Rules concerning how to use work-support yards
- Rules concerning issues that requires coordination when executing construction work and the reporting timing thereof
- Operation rules for the Communication and Coordination Council and rules concerning other cost allocation
- Rules concerning other additional issues to be coordinated

C-020 Participants or their contractors shall, in compliance with the rules established by the Organiser, report to the General Contractors and follow the instructions of the Organiser and the General Contractors for the following items that require coordination with other Participants:

- Process and schedule of construction work
- Number of construction vehicles and their entry/exit timing by route to the Site
- Number of commuter vehicles and their entry/exit timing by route to the Site
- Plan describing the use of construction machine such as cranes in construction work
- Plan describing work that uses a space outside of their Plot
- Plan describing how to treat construction generated soil in line with the Soil Contamination Countermeasures Act

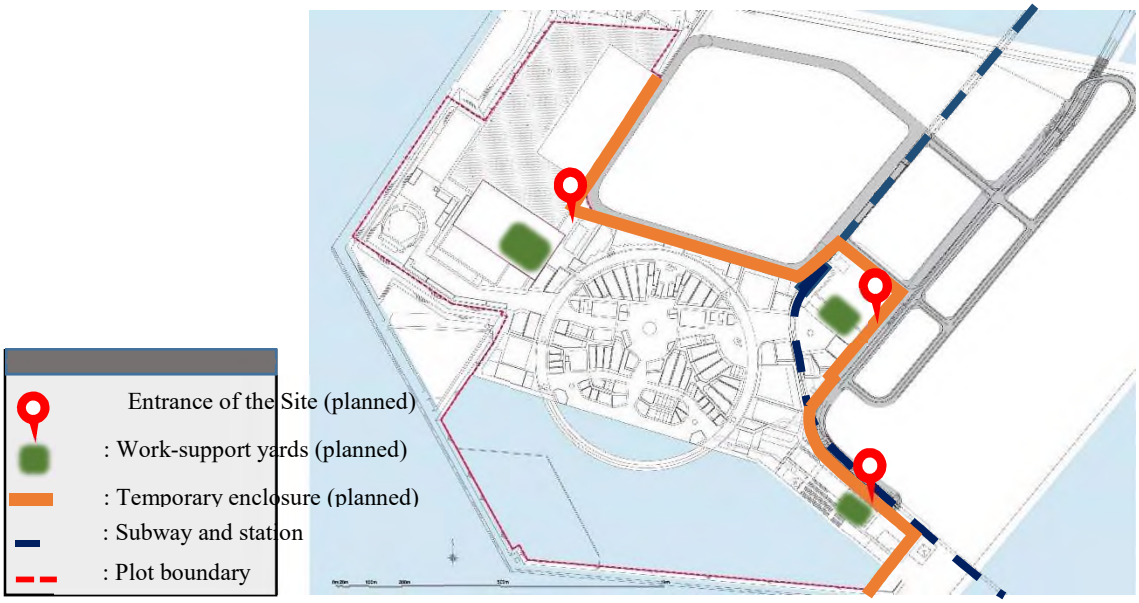
2-1-2. Shared Temporary Construction Facilities Within the Site

The Organiser will establish shared temporary construction facilities that any Participants and their contractor may use within the Site. The following are shared temporary construction facilities planned to be established:

- Temporary enclosure on the periphery of the Site
- Passageway for construction within the Site
- Entrance gate (entry/exit control)
- Security guard at the entrance gate (entry/exit control)
- Construction vehicle management equipment
- Tire washing equipment (at each entrance gate)
- Soil volume measurement equipment
- Work-support yards

(Waiting spaces for construction vehicles, material storage, parking lot for commuter vehicles, and other shared temporary construction facilities, etc.)

Figure 2.2 Draft Installation Plan for Temporary Construction Facilities in the Site (Planned)



2-1-3. Control of Construction/Commuter Vehicles Within Entire Expo Site

In umeshima Island where the Expo Site is located, construction work for the Expo, that for IR, and work to establish infrastructure such as roads and subways within umeshima are conducted in parallel. Therefore, there is concern that the number of construction vehicles and commuter vehicles (hereinafter referred to as "Construction-related Vehicles") is significantly increased, resulting in traffic jam in and around umeshima Island. With this situation in mind, Participants and their contractors shall consider and execute a vehicle management plan that takes into account traffic conditions, including restriction on the number of the Construction-related Vehicles and staggered entry/exit.

C-021 Participants shall limit the number of the Construction-related Vehicles to the minimum.

C-022 Participants shall report the scheduled entry/exit time and the number of the Construction-related Vehicles to the General Contractor as specified in the rules established by the Organiser. In addition, Participants shall revise their plan based on the results of the General Contractor's review and coordination concerning the entry/exit time and the number of the Construction-related Vehicles across the Expo Site as well as in each section.

C-023 The Organiser plans to introduce a traffic control system for the Construction-related Vehicles. Participants shall register their Construction-related Vehicles in advance as specified in the rules established by the Organiser. Participants shall pay the costs for establishing the traffic control system and construction vehicle management equipment to the Organiser or General Contractor.

2-1-4. Consideration Towards Natural Environment

On umeshima Island, which is the planned venue of the Expo Site, rare wild fauna and flora species listed in the "Ministry of the Environment's Red List 2020" and the "Osaka Prefecture's Red List 2014," etc. are observed.

Therefore, consideration towards natural environment is required in executing various types of construction work, including the construction of Pavilions, within the Site.

C-024 If and when little turns are observed during construction work, it shall be promptly reported to the Organiser and appropriate measures to prevent them from making nests, such as covering with bird net, shall be implemented based on the "Conservation/Consideration Guidelines for Breeding Ground of Little Turns" (2014, Wildlife Division of Nature Conservation Bureau, the Ministry of the Environment). If the nests of little turns are observed, it shall be promptly reported to the Organiser and Participants shall follow the instructions of the Organiser, such as giving no-entry orders for surrounding areas as a general rule, as the situation requires due consideration and appropriate measures.

C-025 As rare wild fauna and flora species are observed within and around the planned Expo Site, Participants shall ensure that appropriate conservation measures in accordance with the Organiser's instructions, such as using low-noise and low-vibration construction machine and reviewing the direction and brightness of night lighting, are implemented.

C-026 Participants shall ensure all the construction personnel understand that appropriate measures shall be taken in consideration of the fauna and flora in and around the Expo Site, such as giving orders to prohibit unnecessary entry to areas outside of their construction site.

From the allocation of Plots through the end of the Expo, infrastructure work and the construction of multiple facilities are carried out within the Expo Site. Against such backdrop, Participants will have their Pavilions constructed. Therefore, Participants shall comply with the rules of construction work within the Expo Site, including those specified in this Chapter, as well as the rules of construction work separately established by the Organiser and prepare a construction work plan.

C-027 Participants shall submit the work plan for the construction work in their Plot to the Organiser via the online portal for the Official Participants at least 15 days before the commencement of the construction work. The construction work plan shall detail the organisational structure for construction work of the Participant concerned, work schedule, and other related matters. The following are key components which should be described in the construction work plan:

- Organisational structure for construction
- Overall work schedule (overall schedule from the commencement of the construction work through the completion of work related to exhibit installation)
- Schematic installation plan for temporary construction facilities within the Plot (including lifting plan, etc.)
- Health and safety plan (please refer to Chapter 5)
- List of key materials (the volume and delivery timing of planned materials [including service water])
- Number of workers (the planned number of workers and their work timing)

- Number of Construction-related Vehicles (the planned number and usage timing of construction vehicles, commuter vehicles, and construction machine)
- Volume of waste and excess soil to be disposed of (planned volume and timing)
- List of emergency contact
- Security control within the Plot
- Other construction work-related documents on specific work required by the Organiser

C-028 Participants shall implement necessary measures to mitigate risks and an impact on the adjoining Plot(s) and the entire Expo Site. Participants shall limit the construction work of their Pavilion within their Plot as far as possible and ensure the efficient use of spaces therein. If work outside of a Participant's own Plot is required, please refer to "2-4. Permit for Work Outside of Plot." Until the Organiser completes installing a sewage system into each Plot and give permit of drainage to Participants, Participants shall plan their work in and outside of their Plot not to generate waste water.

C-029 Participants must not cause damage to facilities, etc. of the Organiser and other Participants, regardless of whether they are finished or under construction, during the construction work of their Pavilion.

C-030 Participants shall report any damage they or their contractors cause in their execution of construction work within the Expo Site to the Organiser and take responsibility for such damage. If the Organiser demands that the Participant concerned should repair the damaged works or reimburse the repair costs paid by the Organiser or the other Participants, the Participant concerned shall satisfy the demand.

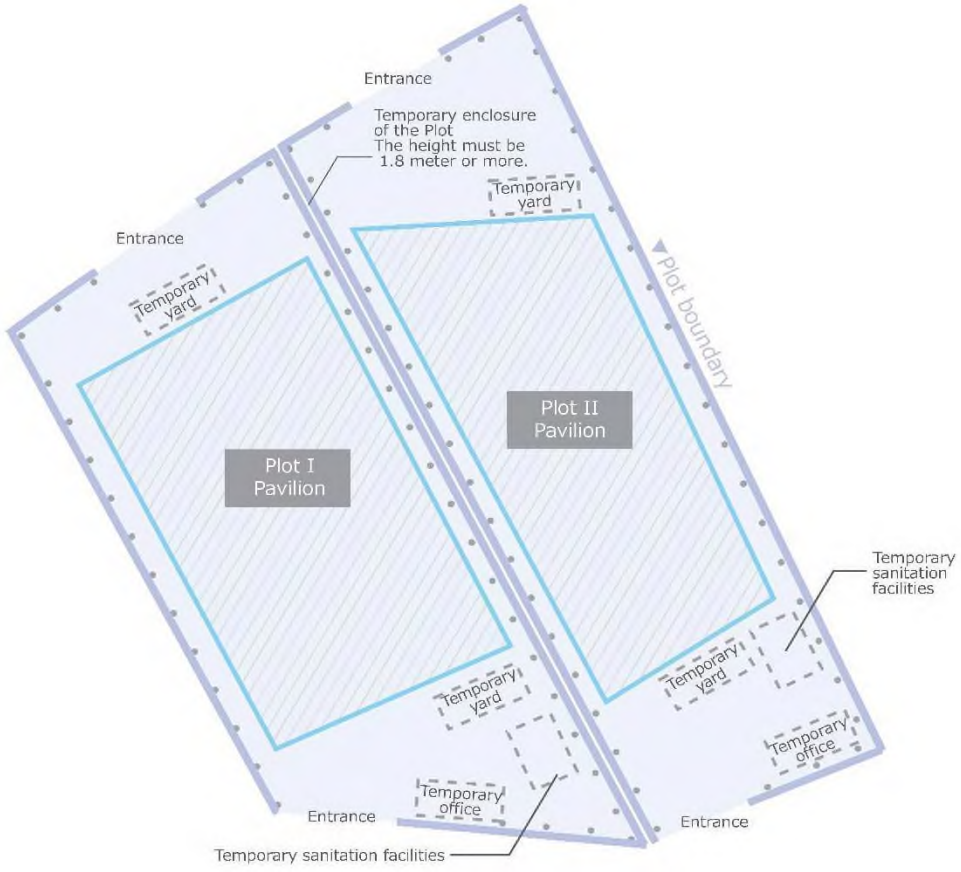
C-031 Participants shall consider their construction work plan based on the ground information provided by the Organiser, taking into account the fact that umeshima Island, which is the planned venue of the Expo, is reclaimed land and consolidation settlement is expected.

G-003 It is desirable that Participants, in executing their construction work, strive to level the amount of construction work taking into account the number of construction vehicles and the impact of noise and vibration.

2-2-1. Plot Boundary and Temporary Enclosure

The Organiser will establish Plot boundaries on Plot Sheets by the date when Plots are handed over to Participants.

Figure 2.3 Overview of Installation Plan for Temporary Construction Facilities Within Plots such as Temporary Enclosure



C-032 Participants shall conduct at their own expense surveying of the Plot using the information of control points provided by the Organiser after the handing over of allotted Plots from the Organiser.

C-033 Participants shall erect solid and continuous temporary enclosure with the height of 1.8 m or more at the boundary of their Plot. Posts and other parts of the temporary enclosure shall be located within their Plot. If there are adjoining Plots, temporary enclosures shall be erected on both sides.

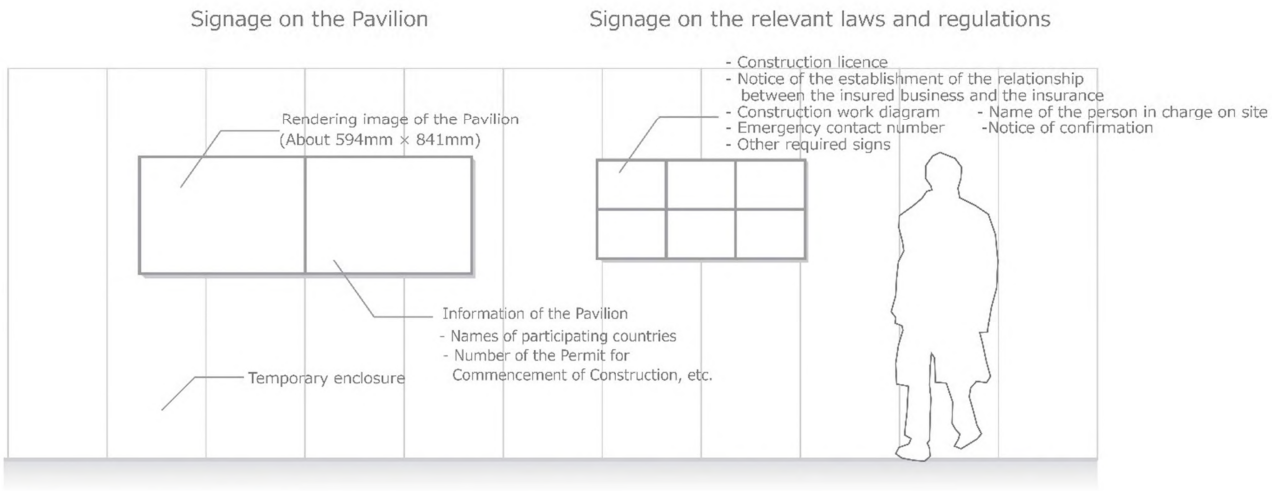
C-034 In addition, Participants shall put two or more entrances (with sliding doors or doors opening inward) that are connected to passageways of the Expo Site (FoH and BoH) in place on the temporary enclosure of their Plot. Participants shall put security guards in place to ensure smooth traffic as a security measure for the entry/exit of vehicles, etc. to/from their Plot.

C-035 Participants shall appropriately maintain and manage the temporary enclosure and entrances by regularly conducting inspection, cleaning, and maintenance.

C-036 Participants shall appropriately maintain and manage temporary construction facilities within their Plot, including the temporary enclosure, and ensure that they remain safe in the wake of disasters such as typhoons and earthquakes.

C-037 Participants shall install construction signage on the temporary enclosure in their Plot at a location close to each entrance and ensure that these signages are always clearly readable. Participants shall present items required by the Organiser on the construction signages.

Figure 2.4 Example of Construction Signage



C-038 Participants must not put any display relating to advertisement on the temporary enclosure unless they have obtained the Organiser's permit in advance.

2-2-2. Shared Temporary Construction Facilities within Plot

C-039 Participants shall establish temporary construction facilities such as a construction site office and rest areas for workers within their Plot during the construction work.

2-2-3. Schematic Installation Plan for Temporary Construction Facilities within Plot

C-040 Participants shall prepare a schematic installation plan for temporary construction facilities within their Plot and submit it with the construction work plan to the Organiser via the online portal for the Official Participants. The following are items that should be included in the schematic installation plan for temporary construction facilities:

- Specific location of the Plot and the coordinate of Plot boundaries
- Location and specification of the temporary enclosure of the Plot
- Locations and specification of the entrances of the Plot
- Planned locations of construction machine/vehicles
- Plan for outer scaffolding
- Route for construction vehicles and plans for passageways within the Plot
- Temporary construction facilities such as a construction site office, rest areas for workers, and toilets
- Building material yards, electrical equipment for construction, water supply equipment (tanks) for construction
- Waste storage (waste separation spaces, the warehouse of waste containers, etc.)

G-004 It is desirable that Participants secure parking spaces for construction vehicles within their Plot if possible. In principle, parking on passageways within the Expo Site but outside of Participants' Plot is not allowed.

Therefore, if it is necessary, Participants are expected to obtain the General Contractor's permit to use waiting spaces for construction vehicles and effectively use the designated space.

2-2-4. Temporary Infrastructure within Plot during Construction Work

C-041 Participants shall make necessary arrangement for temporary infrastructure after coordinating with the General Contractor until the Organiser completes installing infrastructure such as a water supply system, electrical equipment and sewer pipes into each Plot. In addition, the Organiser plans to set up several water supply locations in the Expo site as temporary infrastructure that can be shared, and Participants will be able to procure water required for the Plot handed over from the supply locations in the construction period. The timing of the commencement of infrastructure services established by the Organiser is planned to be announced to Participants by the Organiser via the online portal for the Official Participants.

C-042 Participants shall bear the costs for temporary infrastructure such as a water supply system, electrical equipment and sewer pipes until infrastructure services provided by the Organiser are commenced. In addition, Participants shall pay electricity bills to the Organiser once the services of official electrical equipment commence.

C-043 Participants shall collect and treat sewage appropriately in compliance with the Laws and Regulations as well as the rules established by the Organiser.

C-044 Participants shall give due consideration to the safety of a power generator in its installation to prevent fires and other disasters.

2-2-5. Transportation and Storage of Building Materials

C-045 Participants shall transport building materials required for their construction work into their Plot in compliance with the operation rules established by the Organiser and appropriately store them under their own responsibility.

C-046 Participants shall rent vehicles and construction machines that are necessary for the transportation of building materials, etc. into their Plot themselves and take responsibility for the transportation and storage of building materials and other items.

C-047 When Participants plan to have transportation vehicles come to/go out of the Expo Site, they need to work with the General Contractor to make necessary coordination taking into account other Participants' schedule. Therefore, Participants shall report the number and scheduled timing of vehicles which come to/go out of the Site, pursuant to the rules established by the Organiser.

C-048 If the Organiser demands to do so, Participants shall have transportation vehicles go through security check before they are allowed to come into the Expo Site. Participants shall plan their work schedule taking into account the time necessary for such security check. Please note that the time required for the security check depends on the types and contents of goods loaded on each vehicle.

C-049 Participants shall unload transported building materials within their Plot. If there is not enough space within the Plot, Participants shall submit to the General Contractor in advance an application for

unloading materials outside the Plot, obtain its permit, and unload building materials at a passageway, etc. that adjoin their Plot.

2-2-6. Management and Disposal of Waste and Construction Generated Soil

C-050 Participants shall separate wastes generated from the construction work within their Plot and appropriately store them so that they will not be scattered out of the Plot by rain and wind.

C-051 Participants shall dispose wastes generated from the construction work in compliance with the Laws and Regulations and strive to curb and recycle such wastes.

C-052 Participants shall treat sludge generated from piling work, etc. as industrial waste and appropriately handle it in compliance with the Laws and Regulations such as recycling it.

C-053 Participants shall separate wastes generated during the construction work by type within their Plot as much as possible and strive to recycle them into recycled aggregate, roadbed material, or recycled chips by handing them over to intermediate waste disposal companies.

C-054 Participants and their contractors shall achieve the following mixed construction waste-related objectives set out in the "Construction Recycling Promotion Plan 2020" (September, 2020, the Ministry of Land, Infrastructure, Transport and Tourism).

Item	Indicator	Goal for 2024
Asphalt/concrete lumps	Recycling rate	99% or higher
Concrete lumps	Recycling rate	99% or higher
Construction generated wood	Recycling/reduction rate	97% or higher
Construction generated sludge	Recycling/reduction rate	95% or higher
Mixed construction waste	Discharge rate	3.0% or lower
Overall construction waste	Recycling/reduction rate	98% or higher

C-055 Participants shall strive not to generate waste by simplifying packing materials and try to reduce waste by separating various types of wastes with separation containers.

C-056 Participants shall arrange regular waste collection.

C-057 Construction generated soil from drilling shall not be carried out of umeshima Island.
Regarding construction generated soil, Participants shall follow the procedures required by the Soil Contamination Countermeasures Act and transport them to the places designated by the Organiser within the Expo Site. In doing so, Participants shall keep record of its amount with soil volume measurement equipment. The soil volume measurement equipment will be installed by the Organiser. For the procedure, please refer to "the list of necessary notifications to respective government bodies at the time of construction work" described in the end of this Guidelines.

C-058 With regard to costs to dispose excess soil, Participants shall bear the proportion of the costs determined by the Organiser separately.

C-059 In compliance with the Soil Contamination Countermeasures Act, Participants shall strive to prevent soil from scattered by taking appropriate measures, such as sprinkling water, when they drill their Plot.

C-060 Participants shall avoid carrying out construction work as much as possible in case of heavy rain not to generate muddy water.

C-061 Drainage during the construction work shall be appropriately neutralized and disposed into places instructed by the Organiser in Water World of the Expo Site.

2-2-7. Use of Construction Machine

C-062 When Participants use construction machine such as cranes in their construction work and coordination with neighbouring Plots is required, the said Participants and their contractors shall report matters to be coordinated to the General Contractor and obtain its approval.

C-063 Participants must not handle the jib, equipment, built-in gear, suspended loads of cranes above the adjoining Plots or other handling areas (in a suspended state) without the approval of the General Contractor.

C-064 Participants shall, in executing specified construction work in which construction machine is used, submit an implementation notification of specified construction work pursuant to the Noise Regulation Act, the Vibration Regulation Act, and the Osaka Prefectural Ordinance on Maintenance of Living Conditions.

C-065 Participants shall proactively use low-emission construction machine designated by the Ministry of Land, Infrastructure, Transport and Tourism in terms of construction machine.

C-066 Participants shall proactively use low-noise and low-vibration construction machine designated by the Ministry of Land, Infrastructure, Transport and Tourism in terms of construction machine.

C-067 Participants shall strive to reduce exhaust emissions and mitigate noise and vibration by preventing unnecessary idling of engines and avoiding simultaneous operation as much as possible when using construction machine.

G-005 It is desirable that Participants use construction vehicles/machine that are ran by electricity, a fuel cell, environmentally friendly fuels such as biofuels or hybrid technology, etc. to the extent possible.

2-2-8. Hours When Construction Work May Be Carried Out

As a rule, construction work may be carried out from 8:00 to 18:00 within the Expo Site. If there is a specific reason in developing the Expo Site or an emergency, the Organiser may order the suspension of construction work within the Site or the closure of the Site, or instruct relevant parties to leave the Site. In that case, Participants shall follow the order.

C-068 In principle, construction work at night or on weekends and holidays is prohibited. If construction work need to be carried out at such hours, Participants shall obtain the approval of the Organiser in advance.

C-069 When carrying our nighttime work, Participants shall try to minimize such work while appropriately taking care of noise and other nuisances, and mitigate any impact on fauna and flora around the planned Expo Site as much as possible by adopting appropriate shading hood and placing lighting equipment at right places.

The Organiser will implement security control in accordance with the progress of the construction work of the entire Expo Site. If security control measures are updated, their details are planned to be announced to Participants via the online portal for the Official Participants.

2-3-1. Responsibility for Security Measures

The Organiser will manage access to the Expo Site and traffic therein and issue admission/certificates of vehicle traffic permit, etc. valid during the construction work. Participants shall bear responsibility for the loss or damage of valuables. The Organiser will not compensate any loss or damage.

C-070 Participants shall always secure emergency route to their plot without conditions so that the Organiser can immediately respond to any emergency such as fire.

C-071 If emergencies such as fire and an accident during construction work occur, Participants shall immediately report them to the Organiser and take emergency response measures. For the details of communication/reporting at the time of emergencies, please refer to Chapter 7.

C-072 Participants shall prohibit construction personnel from unnecessarily entering into other places than their Plot.

G-006 It is desirable that Participants implement security measures such as putting surveillance guards in place and recording the entry/exit of construction personnel to/from their Plot as well as work done in order to protect buildings, equipment and other asset within their Plot. The Organiser will not protect the assets of Participants, and will never compensate loss or damage if any problems concerning such assets arise.

G-007 It is desirable that Participants manage important facilities, EPS, switchboards, control panels in their Pavilion and basins within their Plot by installing locking devices.

G-008 It is desirable that Participants minimize the exposure of cables in their Pavilion by using electrical/communication wire conduits so that the cables are not visible from outside.

2-3-2. Location of Security Check

The Organiser will carry out security checks on entering/exiting vehicles and construction personnel at the entrances of the Expo Site.

C-073 The Organiser will put gate security guards in place to check certificates of vehicle traffic permit, admission passes and entry permits discussed later and perform other tasks. Participants shall reimburse security check-related costs to the Organiser or the General Contractor.

2-3-3. Certificate (Pass) of Vehicle Traffic Permit

C-074 All the vehicles that enter into the Site shall present a certificate of vehicle traffic permit issued by the Organiser by placing it on the windshield. Participants shall apply for the certificates of vehicle traffic permit to the Organiser via the online portal for the Official Participants at least 3 days before the vehicle concerned arrives at the Site.

C-075 Regarding the vehicles of visitors, a certificate of vehicle traffic permit and an entry permit will be issued at guard stations that are planned to be established near the entrance gates of the Expo Site. The vehicles of visitors shall be parked in the spaces within the designated work-support yard.

C-076 Participants and their contractors shall strictly comply with the traffic rules established by the Organiser that are applicable within the Site. The Organiser may impose restrictive measures on those who violate such traffic rules, including the revocation of vehicle traffic permits.

2-3-4. Admission Pass

C-077 Construction personnel who enter to the Expo Site, including Participants and their contractors, shall obtain admission passes issued by the Organiser. All the construction personnel shall always carry their admission pass.

C-078 Participants shall apply for the admission passes for construction personnel to the Organiser via the online portal for the Official Participants. The following are required documents to be attached:

- Health insurance card (national health insurance and social insurance)
- Copy of passport (only for those with foreign nationality)
- Copy of work visa valid in Japan (only for those with foreign nationality)

C-079 Participants shall apply for the admission passes to the Organiser via the online portal for the Official Participants at least one day before the relevant construction personnel arrive at the Expo Site. Please note that if Participants want to apply for more than ten admission passes at a time, in order to ensure efficient issuance procedures, the application shall be made at least three days before the relevant personnel arrive at the Site.

2-3-5. Entry Permit (Temporary Permit)

C-080 All the visitors shall obtain an entry permit when entering into the Expo Site. An entry permit will be issued at guard stations that are planned to be established near the entrance gates of the Expo Site after a security guard confirms the visitor's official ID (driver's license, etc.), destination, and whether the visitor comes by car (if a vehicle traffic permit is necessary), etc.

C-081 Participants and their contractors shall pick up and drop off the visitor between the work-support yard and the destination.

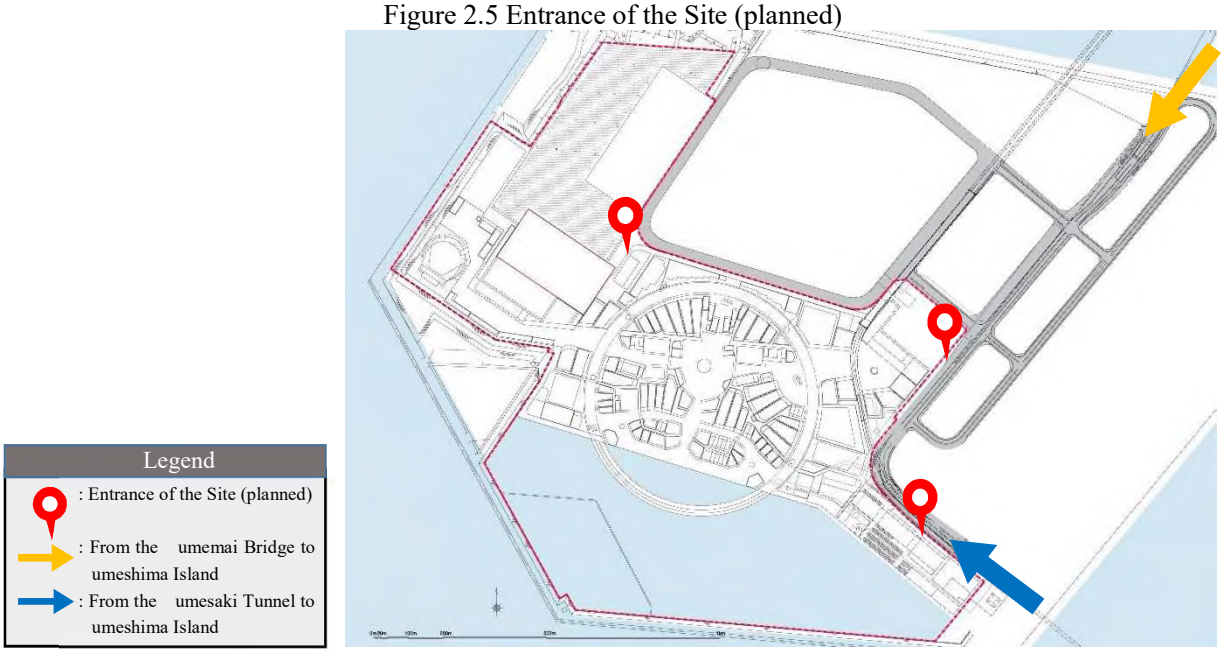
C-082 When temporarily carrying out construction work outside of their Plots, Participants shall submit a work-outside-of-the-Plot application to the General Contractor in advance and obtain its permit. The said work-outside-of-the-Plot application shall be accompanied by a work-outside-of-the-Plot plan that describes the summary of the work (such as its timing and what will be done).

C-083 As the General Contractor must coordinate work outside of Plots of different Participants to issue a permit for such work, Participants shall submit their application as early as possible taking into account the

schedule of their work outside of the Plot. Participants shall comply with the rules established by the Organiser in terms of the timing of application.

In order to ensure safe and timely transportation, the Organiser will implement traffic control in all the areas within the Expo Site.

Figure 2.5 Entrance of the Site (planned)



2-5-1. Access to the Expo Site

Only vehicles may enter into the Expo Site.

C-084 Participants shall appropriately plan the vehicle routes and use expressways as much as possible so that there would be least impact of work-related movement of their vehicles on the surrounding area, including umeshima Island on which the Expo Site is planned.

C-085 The Organiser plans to introduce commuter buses that may be used by construction personnel in order to reduce the number of vehicles that go into/out of the Site. The period and way to operate such commuter buses are to be determined. Once such commuter buses are ready, Participants shall ensure that their construction personnel use them as a general rule. Participants shall reimburse commuter buses-related costs to the Organiser or the General Contractor.

C-086 Regarding access to the Expo Site and transportation, Participants shall comply with road traffic-related Laws and Regulations in Japan, including restrictions on traffic within umeshima Island, and follow the instructions of traffic/road administrators.

C-087 Regarding the delivery of building materials and other items, Participants shall consider appropriate hours for construction vehicles to travel the designated routes, ensure that construction vehicles do not

obstruct pedestrians, ensure that drivers drive in an appropriate manner, and control the operation of the Construction-related Vehicles.

C-088 When planning transportation to the Expo Site, Participants shall consider traffic conditions in the surrounding areas, including umeshima Island that is the planned Expo Site. The Organiser plans to provide Participants with information of traffic conditions in the areas surrounding the Expo Site via the online portal for the Official Participants.

C-089 Participants shall optimise the schedule of delivery/carrying out of building materials, products, etc. by ordering an appropriate amount of materials, in order to reduce the number of vehicles.

C-090 Commuter vehicles, vehicles that transport building materials, and other vehicles shall strive to avoid unnecessary idling of engines, reduce exhaust emissions, and mitigate noise.

C-091 Vehicles that enter into the Site, in principle, must not bring in prohibited goods, such as animals and plants, alcohol, medicine not authorised in Japan, illegal drugs, explosives, etc.

Letters and packages may be transported to each Plot using the designated routes once delivery persons obtain an entry permit at guard stations established by the Organiser near the entrance gates of the Site.

2-5-2. Entrance of Site

The entrances of the Site may be changed for operational reasons. If the entrances of the Site are changed, it will be announced via Participant Portal in advance.

2-5-3. Passageway within Site

The Organiser will secure routes for construction vehicles to the Plots of Participants within the Expo Site. Available Routes for construction vehicles are adjusted in accordance with the progress of the construction work of facilities relating to common areas within the Site and that of infrastructure and announced them to Participants via the Communication and Coordination Council. The Organiser plans to asphalt the routes for construction vehicles after the completion of infrastructure work.

C-092 Participants must not put building materials, construction vehicles, et. on passageways within the Site without the permit of the Organiser.

C-093 When Participants need to temporarily use part of passageways within the Site for their construction work, they shall submit an application to the General Contractor in advance and obtain its permit as set out in “2-4. Permit for Work Outside of Plot.”

C-094 Participants must not have construction vehicles and other vehicles park or wait on passageways within the Site. The Organiser plans to arrange parking lots for commuter vehicles and waiting areas for construction vehicles within the work-support yards in accordance with the progress of the construction work of facilities relating to common areas within the Site and that of infrastructure and announced to Participants via the Communication and Coordination Council. Participants shall comply with the usage rules established by the Organiser when they use such areas.

2-5-4. Traffic Signage and Lighting Within Site

The Organiser will ensure the security of traffic within the Site by put traffic signage and lighting on passageways for construction appropriately.

C-095 When lighting for construction is required in their Plot, Participants shall put lighting equipment in place at places necessary for their construction work in an appropriate manner and maintain it.

2-5-5. Traffic Control within Site

Participants and their contractors shall comply with road traffic-related Laws and Regulations in Japan and follow the instructions of the Organiser on the roads within the Site too.

C-096 Participants and their contractors shall comply with road traffic-related Laws and Regulations in Japan, such as limiting the speed of their vehicles within the Site, using seatbelt while driving, and avoiding using mobile devices while driving. Please note that the maximum speed allowed on the passageways within the Site plans to be set at 20 km/h but it may be different at certain places. In addition, to ensure the safe passage of vehicles within the Site, it is planned to introduce the Organiser-established traffic rules and traffic signage.

C-097 Construction vehicles shall go out from the Site to public roads only after washing their tires with tire washing equipment in order not to pollute public roads and to prevent dusts from scattering.

C-098 The tire washing equipment will be installed by the Organiser. Participants shall, if they use the tire washing equipment, pay their shares of its installation costs to the Organiser or the General Contractor.

C-099 Upon the Organiser's request, participants may have inspection of concealed spaces before they are sealed off during the construction work. In addition, the Organiser may request that it inspect equipment or materials with a concealed space before Participants bring them into the Site. Participants shall plan their work schedule taking into account the possibility of such inspection. Please note that the time required for the inspection depends on the types and contents of goods loaded on each vehicle.

C-100 Participants shall submit a construction progress report to the Organiser every month via the online portal for the Official Participants. The construction progress report shall include the following information:

- Overall work schedule (which shall clearly show the value of work done and the progress)
- Work schedule for the following month
- Work progress report for the current month
- Pictures of work progress for the current month (including pictures of fixed-point observations)
- Implementation status of health and safety management (the total number of workers / the total number of working hours / presence or absence of accidents, etc.)
- Environment-related data report

- Report on important issues (situations concerning an accident, etc.) relating to the Organiser and third parties
- Report on the progress of actions to correct non-conformance (if a non-conformance report has been issued)
- Other performance report required by the Organiser

C-101 Participants shall submit a construction progress report on the date designated by the Organiser every month via the online portal for the Official Participants, starting at the planning phase.

2-7-1. Confirmation of Environment-related Data and Report to the Organiser

C-102 Participants shall have their construction supervisor or contractors collect environment-related data every month. If there is any issue, Participants shall clarify the characteristics of the issue and report it, along with proposed solution, to the Organiser. The format of the environment-related data report is planned to be made available via the online portal for the Official Participants. The following are environment-related data that Participants shall collect every month:

- Construction-related Vehicles (number, the time slot of operation, routes)
- Construction machine vehicle (number and hours to operate)
- Amount of waste generated (disposed) (the recycle rate of waste and the destination of waste disposed)
- Amount of excess soil generated (disposed)
- Amount of sludge generated (disposed)
- Amount of human waste generated (disposed)
- Amount of electricity used
- Amount of service water used
- Amount of sewage used (amount to be treated)
- Types and amounts of fuel used in the venue (construction machine / power generators)

C-103 Participants shall conduct regular inspection to ensure that their construction supervisor or contractors take measures to protect the environment in accordance with “Chapter 6: Sustainability Efforts” herein.

The following are documents concerning this Chapter that the Organiser requires Participants to submit. The documents are to be submitted to the Organiser via the online portal for the Official Participants. Designated formats for documents to be submitted will be made available on the online portal for the Official Participants.

Names of documents to be submitted:

- Construction work plan (2-2)
- Schematic installation plan for temporary construction (2-2-3)
- [If necessary] Application form for outside-of-the-Plot unloading (2-2-5)
- [If necessary] Application form for the use and coordination of construction machine (2-2-7)
- Application form for construction at night and on weekends/holidays (2-2-8)
- Application form for a certificate of vehicle traffic permit (2-3-3)

- Application form for an admission pass (2-3-4)
- Application form for an entry permit (2-3-5)
- Work-outside-of-the-Plot application form (2-4)
- Construction progress report (2-7)
- Environment-related data report (2-7-1)

- Building Standards Act
- Noise Regulation Act
- Vibration Regulation Act
- Osaka Prefectural Ordinance on Maintenance of Living Conditions
- Air Pollution Control Act
- Construction Material Recycling Act
- Construction Recycling Promotion Plan 2020
- Information of umeshima-related construction work
  - umeshima Island Development Project Coordination Council: https://www.city.osaka.lg.jp/kensetsu/page/0000478281.html
  - Communication Council for Smooth Progress of the Expo Project at umeshima Island: https://www.city.osaka.lg.jp/kensetsu/page/0000506669.html

This Chapter defines requirements for fire prevention and security. Participants shall comply with the rules set out in this Chapter as well as the relevant Laws and Regulations. Participants shall take responsibility for the security of their Pavilions. The Organiser will not accept any responsibility for the security of the Participants' Pavilions. Participants shall bear costs for fire prevention and security. Participants shall consider the requirements defined in this Chapter when they design their Pavilion.

In Pavilions that are set up in the allocated Exhibition Spaces, Participants shall install and maintain Fire Fighting Equipment, etc, pursuant to technical standards defined by the relevant Laws and Regulations in order to provide the Pavilions with necessary fire-fighting functions, such as fire extinction, alarm, evacuation, and follow procedures required by the Fire Department (please refer to the list of the relevant Laws and Regulations).

3-1-1. Fire Fighting Equipment

C-104 Participants must install outdoor fireplug equipment that is able to cover their entire building (except water source and pressurized water supply devices). However, this does not apply if it is confirmed through consultation with the Fire Department that installation is not necessary.

- Installation must comply with standards defined by the Laws and Regulations and it shall be as follows.
- Water source may be taken from a water supply system (0.3 MPa, the minimum pressure in an emergency) provided by the Organiser at the Plot boundary.
- Power sources for pilot lamps can be solar batteries (these lamps must operate 30 hours or more when fully charged).
- If the second floor must be covered, taking into account loss of water lifted, the pressure (0.25 MPa or more) and the amount (350 per minute or more) of discharged water at the nuzzle tip must be secured in the whole second floor, pursuant to the standards defined in the Laws and Regulations. If it cannot be secured, it can be planned to install a package fire extinguishing or indoor fire hydrant to cover the floor based on the installation standard. The piping of the indoor fire hydrant can also be used as that of an outdoor fire hydrant.

3-1-2. Fire Alarm Equipment

The Organiser will build automated fire alarm equipment within the Expo Site and install basins at location within 0.5 m into the Plots from the Plot boundary lines.

C-105 Participants must lay piping and ducts that reach the basins the Organiser has installed for connection to the automated fire alarm equipment.

C-106 Participants must file applications to the Organiser to connect fire alarm equipment that the Participants install within their Pavilions to the automated fire alarm equipment. The Organiser will connect fire alarm equipment on the both ends.

3-1-3. Fire Report Apparatus

C-107 Participants must install fire report apparatus that conforms to the standards defined by the relevant Laws and Regulations. Please note that telephones or IP telephones that can make emergency calls (119 in Japan) are acceptable alternatives except mobile phones and PHS, etc. Please refer to “Chapter 4: 4.2.6 Telecommunications” for the details of telecommunication infrastructure used by IP telephones.

3-2-1. Security Cameras

C-108 Participants must put all the spaces used by general public visitors and all the entrances of their facilities (including entrances for staff) within their Plot under the surveillance of security cameras.

C-109 The security cameras referred to in the preceding item must be designed to have ability to confirm the safety of visitors. The security cameras must have a function of video recording around the clock or motion-activated recording that is stored in recording apparatus or on the cloud and maintain the record for two weeks or more. Participants shall clarify the location and other information of the security cameras when submitting their Design Plans to the Organiser for its approval.

C-110 When the Organiser and/or Related Institutions demand that Participants should allow them to watch video recoded by the security cameras or provide them with such video, Participants must comply with their instructions.

C-111 Participants shall take due care of video recorded by the security cameras in handling it from the privacy protection perspective.

3-2-2. Other Requirements for Safety and Security

C-112 Participants must configure all the security-related equipment to be supplied with backup electricity from an uninterrupted power supply (UPS) that runs for at least four hours or an UPS that runs for at least 30 minutes accompanied by a power generator to prepare for a power outage.

G-009 It is desirable that Participants introduce an intrusion detection system in the areas where precious goods are stored or exhibited.

C-113 If and when the intrusion detection system puts out an alert, Participants must report it to the Organiser. Participants shall take responsibility for insuring their asset and the security thereof.

C-114 Participants must not establish areas to which anyone other than the Participant concerned cannot enter (hereinafter referred to as Restricted Areas). If a Participant cannot follow the rule in the preceding item, the Participant concerned shall clarify the Restricted Areas when submitting their Design Plans to the Organiser for its approval.

C-115 Participants shall, when bringing equipment or materials to be installed/used in the Restricted Areas into the Expo Site, obtain the approval of the Organiser in advance.

C-116 Before a Pavilion with the Restricted Areas referred to in C-114 is closed, the Organiser may have a party it designates carry out inspection on-site or in the manufacturing facilities, etc. of the relevant equipment

and materials. Participants shall follow the Organiser's demand. In such a case, Participants shall bear costs for the inspection.

The following are documents concerning this Chapter that the Organiser requires Participants to submit. The documents are to be submitted to the Organiser via the online portal for the Official Participants. Designated formats for documents to be submitted will be made available on the online portal for the Official Participants.

Names of documents to be submitted:

- [If necessary] Application form for the approval of the establishment of Restricted Areas (3-2-2)
- [If necessary] Application form for the approval of bringing equipment or materials into Restricted Areas (3-2-2)

Utility services will be provided to all Pavilions before the exposition is held. The Organiser will connect Utilities from the infrastructure supply network to locations approximately 0.5 m into each Participant s Plot. After obtaining relevant approvals from the Organiser, Participants will access the services within their Plots and activate them. The Organiser will notify Participants each time respective Utilities become available.

The Organiser will provide to Participants Plot Sheets, which include details on Utility allotment as well as details on Utility access such as location, size, level, and materials. Figure 4.1 indicates an example of Utility access points. Please refer also to this Chapter and the online portal for the Official Participants for details on Utility access and to Chapter 2 for details on temporary Utility supply.

C-117 If the Organiser cannot prepare permanent Utility services by the time Participants need to access them, the Participants must arrange for the temporary Utility services on their own until the permanent Utility services start operating.

C-118 As explained in the following section, Participants must obtain approvals from the Organiser before accessing Utility services.

C-119 When accessing Utility services, Participants must request final inspections to the Organiser in written form.

Before accessing to and activating Utility services within Plots, Participants must confirm the supply period with the Organiser and obtain appropriate approvals.

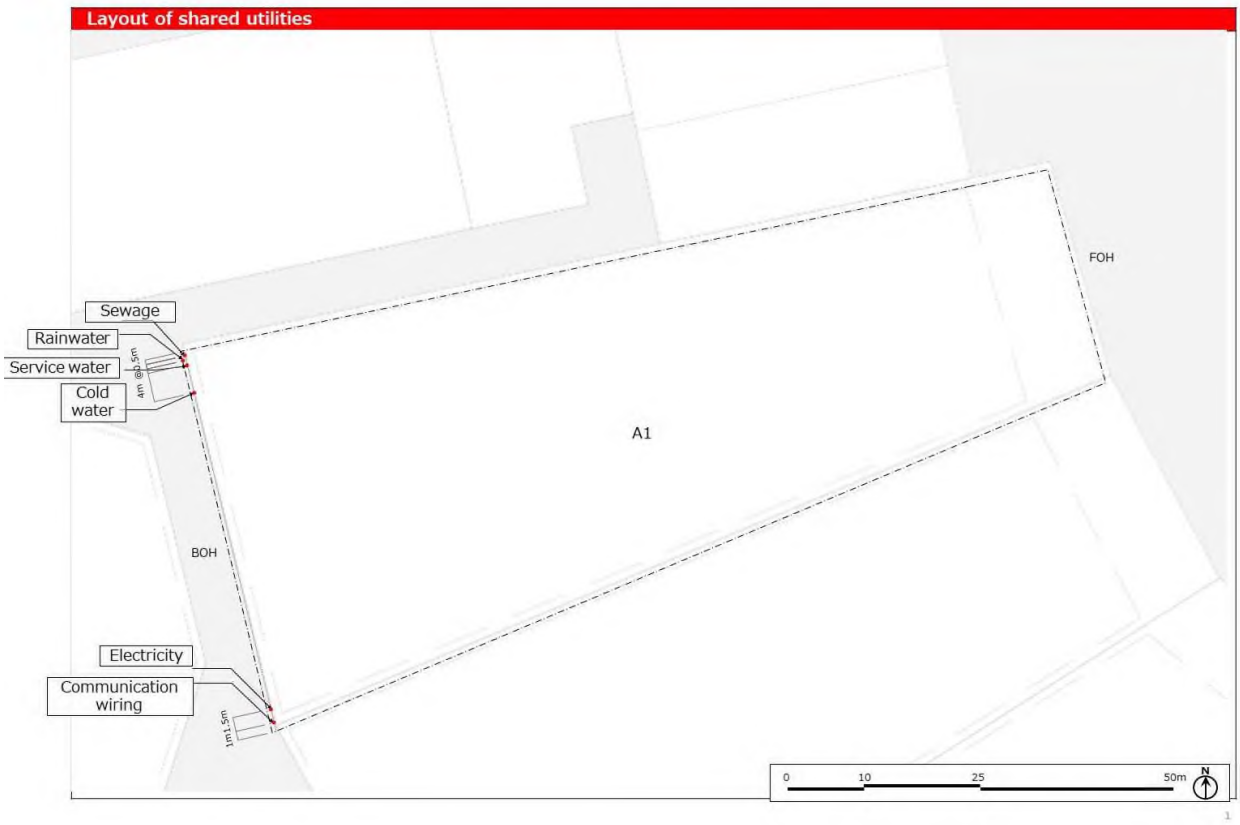
Participants shall conclude a contract with the Organiser for electricity, water, sewerage (waste water) and chilled water, and a contract with a Utility service vendors for gas and telecommunications. Participants are responsible for paying fee of the connection to the Utility.

C-120 In the event the Participants access to or use of Utility services affect the Utility supply network installed by the Organiser, the Participants must bear costs for the effects caused.

C-121 Participants must cause appointed contractors to access permanent utilities based on the content of applications for Utility service access approvals that the Participants submit to the Organiser.

C-122 Participants must complete access to permanent utilities in compliance with relevant laws, regulations, and standards provided in this Chapter.

Figure 4.1 Example of Utility access points



4-2-1. Water

The Organiser will install water supply locations within the Venue and extend the water supply network approximately 0.5 m into each Participant s Plot from the Plot boundary line. Participants are to access meter-measured water from equipment that the Organiser installs within the Plots and prepare water supply within their Plots. Water constructions must be carried out in compliance with laws and regulations including the Act on Waterworks. The pressure for supply is as follows;

a Normal time : 0.15MPa or more at the end of the water pipe

b Emergency : 0.3MPa or more at the end of the water pipe
(Emergency refers to the use of an outdoor fire hydrant in the event of a fire.)

4-2-2. Electricity

The Organiser will prepare an electricity supply network within the Venue and install above-ground and non-portable transformers or multi-circuit switches. This equipment is internally comprised of two transformers or multiple switches. The supplied electricity will be as follows.

a Electricity: high voltage (6.6k V) or low voltage (100 V, 200 V)

b Frequency: 60 Hz

The Organiser will lay pipes at locations within 0.5 m into the Plots from the Plot boundary lines or install basins at location within 1.5 m into the Plots from the Plot boundary lines.

Participants will lay pipes between the pipes or basins that the Organiser prepared within their Plots to the section switches (or relevant equipment).

The Organiser will prepare wiring and connection up to the section switches (or relevant equipment) that the Participants install. The single-phase or three-phase power that can be used by the participants in the pavilion where the Organiser supplies the low voltage electricity is not limited to the example described in the plot sheet, and the load can be divided within the range not exceeding the allocated capacity.

Construction work for electricity is to be carried in compliance with the Act on Electricity Business, technical standards for electric equipment, and other relevant Japanese laws and regulations.

C-123 Participants must file applications to the Organiser to connect high-voltage lines to high-voltage panels that the Participants install within Pavilions or to connect low-voltage lines to low-voltage panels within Pavilions. The Organiser will connect the power system to the high or low-voltage panels.

C-124 The Organiser will provide to Participants certified billing meters for power measurement and transformers. Participants must install them, and after doing so, report to the Organiser. The devices will be provided in January 2024 as of schedule.

C-125 Throughout the Expo period, the maximum amount of electricity that Participants use must be within the power level that the Organiser indicates in Plot Sheets. If the Organiser requests the Participants to report on maximum power levels used, the Participants must do so promptly.

C-126 When receiving high-voltage electricity, Participants must improve power factors so that the lagging power factor at the system connection point is 95% or higher. When receiving low-voltage electricity, Participants must improve power factors so that the lagging power factor at the system connection point is 85% or higher. In either case, Participants must ensure that the power factors do not become leading power factors. If the Organiser requests the Participants to submit calculation documents, the Participants must do so promptly.

C-127 In the following cases, Participants must install necessary adjustment or protection apparatus.

a When the balance in load between each phase is markedly lacking due to the nature of the load

b When the voltage or frequency markedly fluctuates due to the nature of the load

c When the waveform is markedly distorted due to the nature of the load

d When markedly high frequency or harmonic is generated

e In other cases equivalent to a, b, c, or d

If the Organiser requests the Participants to submit equipment lists and calculation documents, the Participants must do so promptly.

C-128 When Participants install interconnected power generating equipment, they must file applications to the Organiser before starting the installation work of the power generating equipment, using application forms for approvals of Utility service access. Participants are not permitted to cause reverse power flow to areas outside their Plots.

C-129 Participants must use equipment and materials that meet relevant Japanese standards such as Japanese Industrial Standards (JIS), standards of the Japanese Electrotechnical Committee (JEC), standards of the Japan Electric Manufacturers Association (JEM), Japanese Cable Makers Association Standard (JCS), and Japan Electric Association Code (JEAC) as well as provisions in the Act on Electrical Appliance and Material Safety. However, to promote global procurement of equipment and materials, Participants will be permitted to use other equipment and materials that meet IEC (International Electrotechnical Commission) specifications only if the specifications are deemed to be equivalent to or more stringent than Japanese specifications. When using such equipment, if the equipment or materials are not approved by technical standards for electric equipment, the Participants must research how the equipment or materials differ from counterparts that meet Japanese standards and for prior approvals, submit by the time the equipment and materials are used in construction to the Organiser documents indicating that the specifications are equivalent to or more stringent than Japanese specifications, and obtain the approval from the Organiser for use.

4-2-3. Sewage (wastewater)

In the Venue, the Organiser will extend the sewage system network approximately 0.5 m into Participants Plots from the Plot boundary lines. Participants are to connect their sewage to the equipment that the Organiser installed within their Plots and prepare sewage systems within their Plots. Sewage constructions must be carried out in compliance with laws and regulations including the Act on Sewage.

4-2-4. Sewage (rain water drainage)

In the Venue, the Organiser will extend the rain water drainage system network to areas close to Plot boundary lines (outside of Plots). Participants are to connect their rain water drainage pipes to the equipment that the Organiser installed close to their Plot boundary lines and prepare rain water drainage systems within their Plots.

C-130 When Participants develop systems for rain water storage within their Plots, they shall report the plan and usage to the Organiser and connect to the rain water drainage system network using the rain water basins near Plot boundary lines.
Sewage constructions must be carried out in compliance with laws and regulations including the Act on Sewage.

4-2-5. Gas

The Organiser will not provide a gas supply network. If gas is necessary, Participants are to procure and fund gas by themselves. When using gas, LPG must be used. The Organiser will provide a list of gas sales operators.

C-131 If Participants use gas, they must enter into agreements with gas sales operators. Participants must report to the Organiser the name of the LPG sales operator. Participants must have fire prevention supervisors

develop fire prevention plans, execute fire preventive measures that comply with laws and regulations, and report the content to the Organiser.

Gas-related constructions must be carried out in compliance with laws and regulations including the Act Concerning the Securing of Safety and the Optimisation of Transaction of Liquified Petroleum Gas.

4-2-6. Telecommunications

The Organiser will develop an information and telecommunication infrastructure within the Venue. To provide telecommunication services, the Organiser will install specialised pipes at locations (hereinafter, referred to as "Connection Point") within 0.5 m into Participants Plots from the Plot boundary lines. The Organiser and telecommunication operators can install optical fibre connections and necessary equipment in the Pavilions after the construction of buildings are completed. Telecommunication-related rules can be obtained from the Organiser.

C-132 Participants must secure environments that can accommodate equipment storage boxes that the Organiser installs. Instalment requirements are as follows.

> Instalment space: width 1,100 mm height 1,000 mm depth 300 mm (when doors opened: 1,000 mm)

> Instalment method: attached to walls (using bolts)

> Power source: single-phase 100 V 20 A with ground wire, Form of power outlet: NEMA 5-15R

C-133 Participants must install specialised pipes between the Connection Points and equipment storage boxes that the Organiser installs.

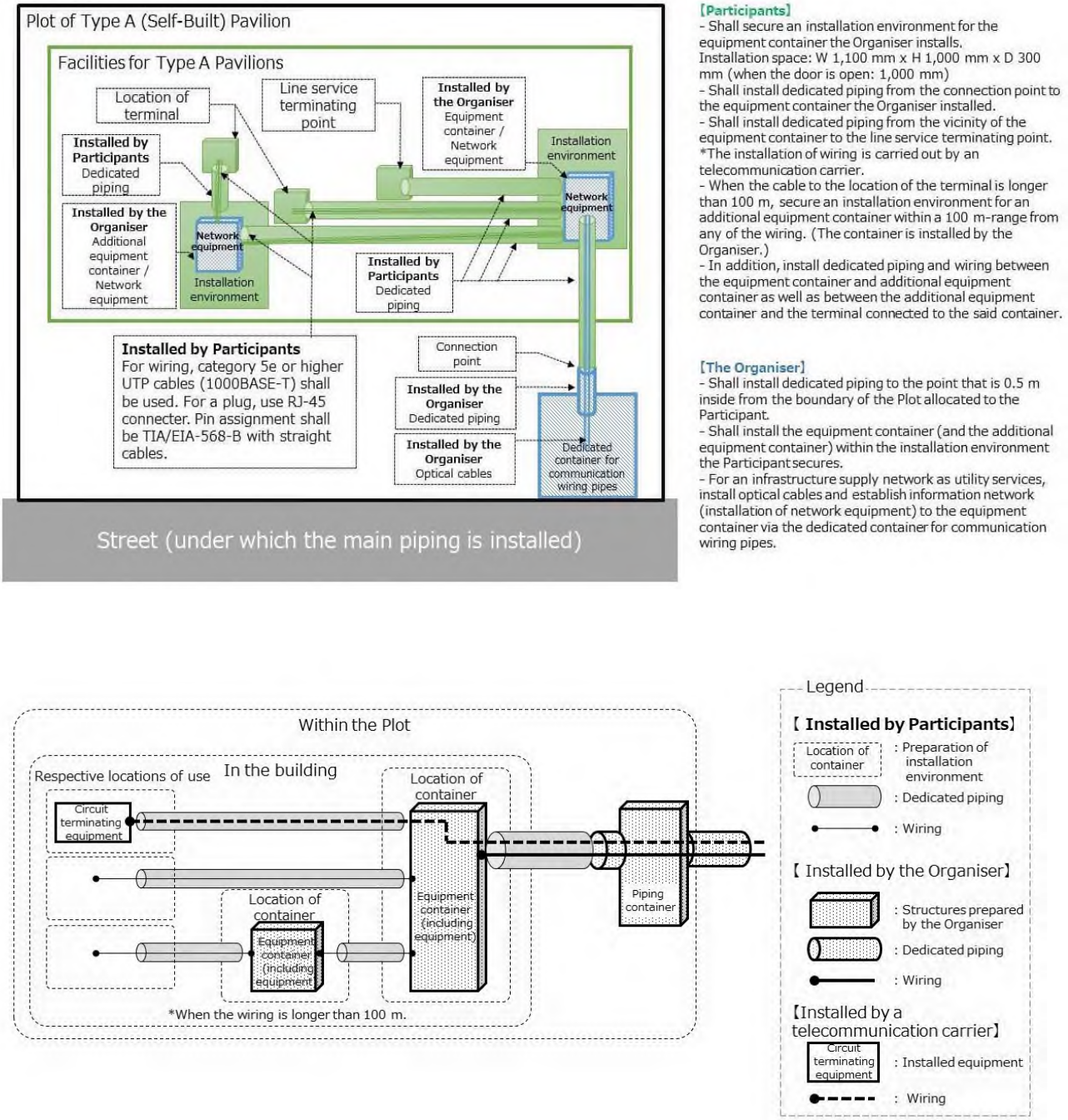
C-134 If Participants apply for cable services, they must install specialised pipes from nearby the equipment storage boxes that the Organiser installs to the point where the Participants wish to terminate the cable services. Telecommunication operators are to perform the laying of cable lines.

C-135 Participants must install specialised pipes and lay cable lines from nearby the equipment storage boxes that the Organiser installs to the terminal instalment point. Terminal instalment points are to comply with telecommunication-related rules. Cable lines comply with 1000BASE-T (IEEE802.3ab) specifications and use UTP cables (unshielded twisted pair cable) that meet category 5e or higher specifications. Plugs must be RJ-45, and pin assignments must be in the form of TIA/EIA-568-B straight joints.

C-136 If the length of cables from the equipment storage boxes to the terminal instalment point exceeds 100 m, Participants must secure instalment environments that can accommodate additional equipment storage boxes so that all cable line are within 100 m. Instalment environments will be the same as equipment storage boxes and funded and installed by the Organiser. Further, Participants must install specialised pipes and lay cable lines between the equipment storage boxes and additional equipment storage boxes and between additional equipment storage boxes and terminal points to be connected to such boxes. However, these standards do not apply to cable services.

C-137 Construction work for cable lines must be performed while paying attention to effects that might be caused by electric equipment and preventing problems in bent areas of the cables. The Organiser may request Participants to resolve any telecommunication problems that arise from cable line equipment that the Participants prepare, and the Participants must respond to such requests.

Figure 4.2 Example of construction categories in the telecommunication infrastructure

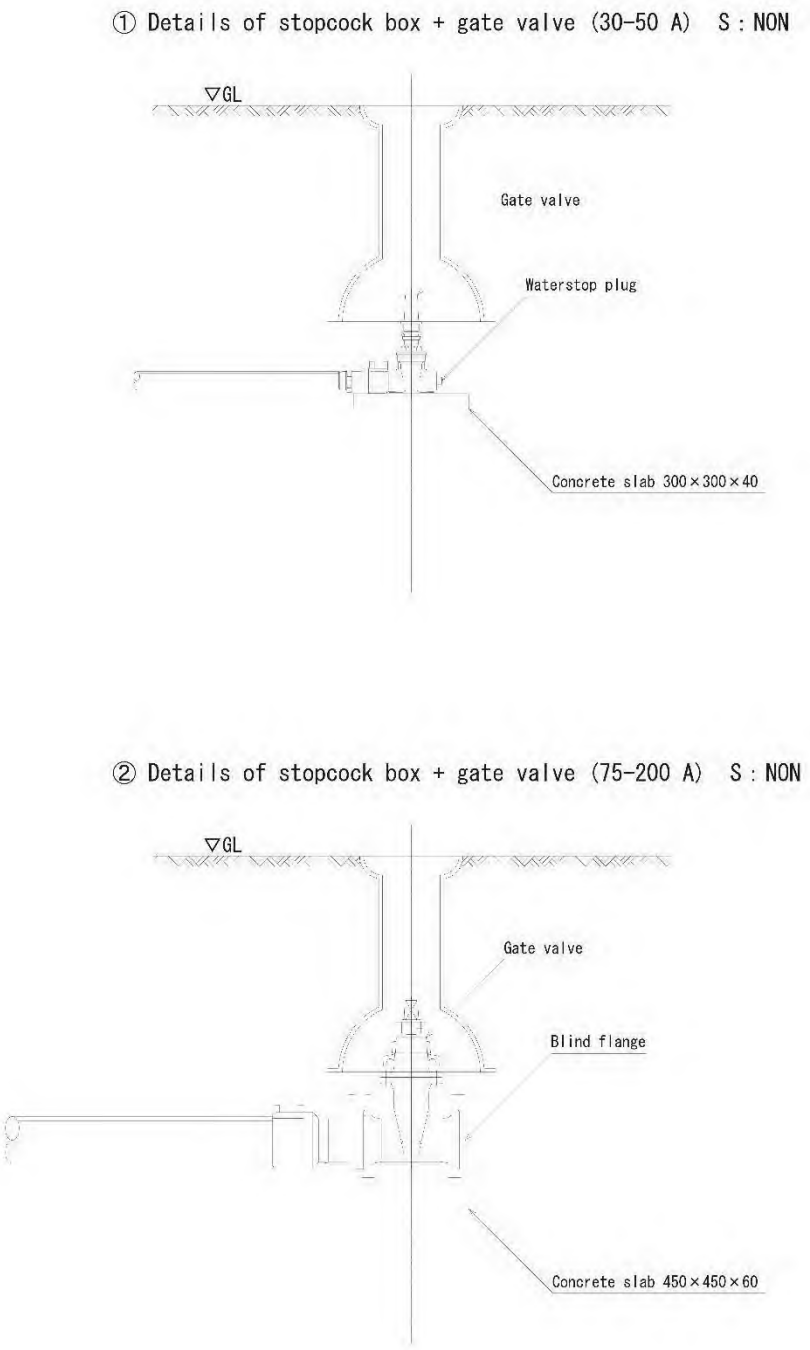


4-2-7. Chilled water

The Organiser will install a chilled water supply network for air conditioning in the Venue. The Organiser will lay pipes in a two-pipe system from the Plot boundary lines to locations within 0.5 m into the Plots and install segment valves. In areas around the segment valves, pressure of the provided supplied water will be approximately 0.2 MPa, and the temperature will be approximately 9°C for supplied chilled water and approximately 19°C for returning

water. The temperature of chilled water supplied at supply locations within the Venue will be 9°C. Chilled water pipes will be laid underground and use segment valves near Plot boundary lines (Figure 4.3). Chilled water pipes will be polythene pipes for water supply, and portions laid underground will not to be thermally insulated. Participant are to connect to such segment valves.

Figure 4.3 Chilled water segment valves near Plot boundary lines

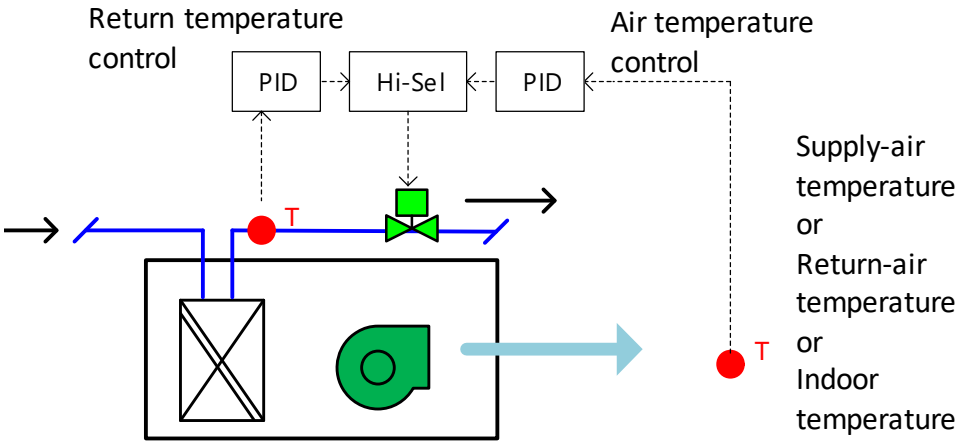


C-138 Participants must install air conditioning equipment that enables a 10°C or more difference in the temperature of supplied and returning chilled water throughout the period of the Expo. All air handling units, fine coil units, and other air conditioning units must be proportionally controlled with two-way

valves. This proportional control will have a temperature control proportional integral derivative (PID) loop for room temperature and a PID loop for the temperature of returning chilled water (return temperature) to secure the difference in temperatures. The two PID outputs (0-100%) by the selection of higher value of the two output will control two-way valves*.

*This control is a function generally implemented in recent direct digital controls (DDC). The following indicates referential model numbers of fan coil unit (FCU) controllers.
Infilex™ FC Fan Coil Unit Controller, manufactured by Azbil Corporation (model number: W 5205W3000, SC-bus communication / standalone use, power AC100-240V, proportional control with return temperature control)

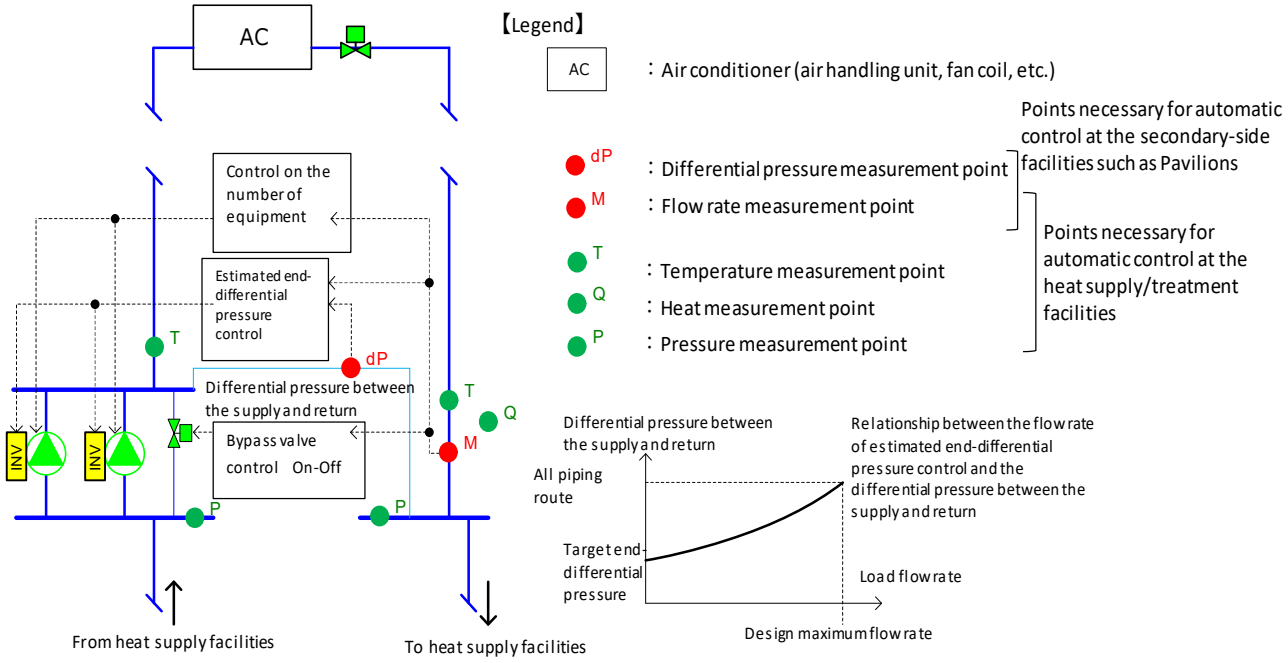
Figure 4.4 Controls in air conditioning units



C-139 Participants must install within buildings chilled water secondary pumps that circulate chilled water. The lifting height of chilled water secondary pumps must be secured between the chilled water supply pipes at the Plot boundary lines to returning chilled water pipes at the Plot boundary lines.

C-140 For secondary chilled water pumps, Participants must install inverters in all constituent units, reduce conveyance power with estimated differential pressure controls and such, and implement inverter variable flow controls that can secure difference in supplied chilled water. Additionally, the lower limit to frequency in inverters must be adjusted to 20% (12 Hz) of electric motor rated frequency (60 Hz). Since the lower limit to frequency will be 20% or less, bypass pipes and bypass valves to prevent elevated temperatures in pumps when the load side is blocked are to be the minimum necessary small diameter and not significantly larger than that (because excessive flow in bypasses cause a reduction in secondary temperature difference).

Figure 4.5 Control of secondary pumps



C-141 If the Organiser requests Participants to submit lists of equipment indicating specifications of air conditioning equipment, instrumentation flow charts, checklist for mandatory design requirements in Table 4.1, and specification tables for selecting chilled water secondary pumps in Table 4.2, the Participants must do so promptly.

Table 4.1 Sample of how to fill in the checklist for mandatory design requirements

Item	Requirement	Check
Inverter instalment	All units have inverters	
Number of pumps	Divided into multiple units and implements control for the number of units according to load flow.	
Control requirements	Variable control for differential pressure between supply and return 1) Implements estimated differential pressure controls 2) Minimum rotation rate (rate in comparison to commercial frequency) of the inverter s main body at 20% or less	12 Hz (20%)
	Bypass valve control to prevent heating of pumps 1) Uses on-off controls according to load flow 2) Bypass pipe diameters that correspond with a flow sufficient to suppress the elevation of temperature due to heat caused by each pump operating at minimum frequency *The bypass flow is to be roughly 10% of each pump s rated flow.	
	All air conditioning units implement two-way valve PI controls	

Requirements of secondary air conditioning systems	Controls for returning temperatures (Figure 4.4) are implemented as a measure to prevent excessive flow (water volume control) in air conditioning units

Table 4.2 Example of how to fill in specification tables for selecting chilled water secondary pumps

Item	Design value	Unit	Remarks
Maximum load power on design	16011	MJ/h	Maximum load power on design derived from thermal load calculations.
Difference in load temperature on design	10.0	°C	Difference in coil temperature in air conditioning units.
Maximum flow on design	151.4	m3/h	Value when maximum load power on design is divided by difference in load temperature on design.
Total resistance in pipe pathways on design	147	kPa	Total resistance in pipe pathways when maximum flow on design flows. Net resistance value.
Target value for differential pressure	40	kPa	Total rated differential pressure of coils and control valves in terminal air conditioning units.
Selected pumps operating-point flow	66.0	m3/h	Flow of selected pumps at operating points. As a general rule, value when maximum flow on design is divided by the number of pumps.
Selected pumps operating-point lifting height	225.4	kPa	Lifting height of selected pumps at operating points. Lifting height at operating points of pumps ultimately selected in light of the estimated percentage of allowance in total resistance in pipe pathways on design.
Selected pumps electric motor output	7.5	kW	Rated output of electric motors in selected pumps.
Number of units constituting secondary pumps	3	units	
Inverter minimum frequency	15	Hz	Minimum frequency at 30% or less than commercial frequency.
Inverter maximum frequency	60	Hz	Maximum frequency decided based on trial operation and subsequent adjustments.
Flow in opened bypass valves	6.6	m3/h	Roughly 10% of each pump s rated flow

C-142 For chilled water heat management and monitoring and control at the heat supply processing facility, Participants must connect the five measuring points for load heat, load flow, temperature of supplied and returning chilled water, and differential pressure of the supplied and returning chilled water to the central

monitoring system of the heat supply processing facility. The Organiser will provide the following equipment in May 2024 as of schedule.

1) Calorimeter
2) Signal input unit to feed signals to the central monitoring system in the heat supply facility equipment
3) Measurement sensors that are unnecessary for air conditioning control in Pavilions (sensors that the heat supply facility side requires)

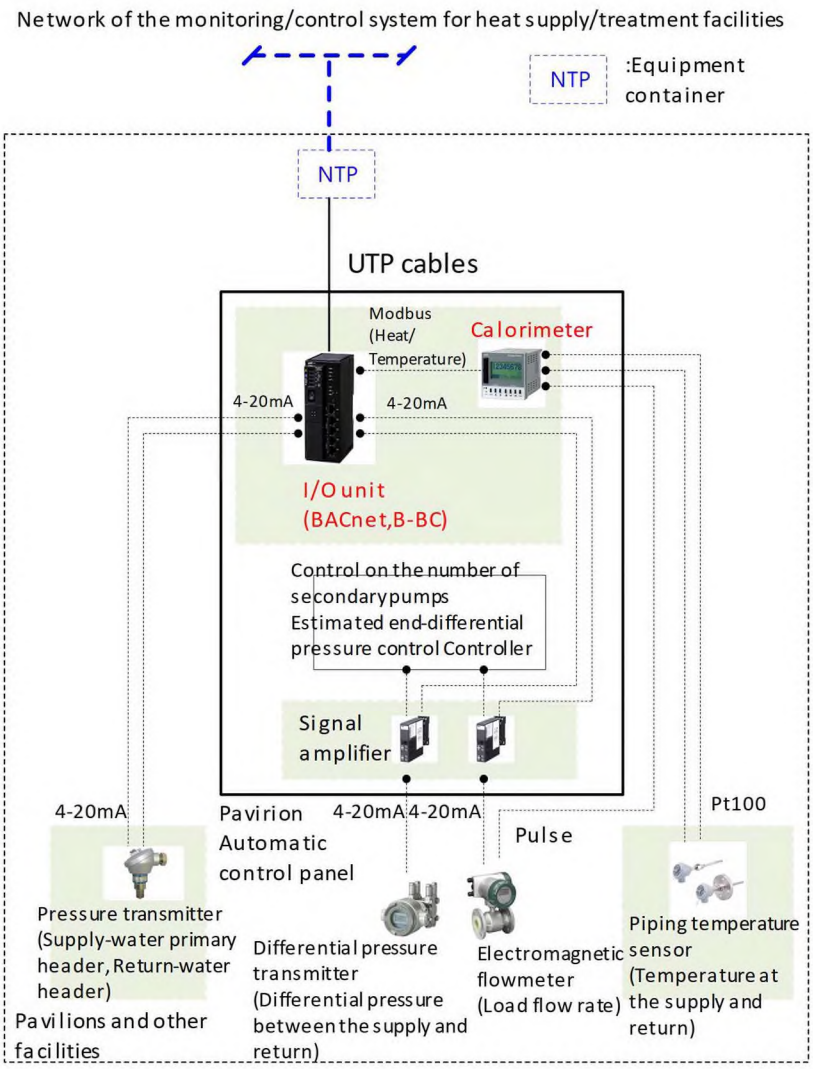
   > Pipe differential temperature sensors for supplied and returning chilled water (Pt100)

   > Pressure transmitters for pressure measurement at headers of supplied primary and returning chilled water (4-20 mA)

   > Signal amplifiers for load flow and differential pressure between supply and return (one for air conditioning control within buildings and another for monitoring points of the heat supply processing facility s central monitoring system)

   Participants are to install the above provided items, incorporate them on panels, and perform any necessary pipe and cable constructions. The following diagram shows construction categories.

Figure 4.6 Overview of constructions to be performed on the part of Pavilions
(Construction for all items indicated with black lines and fonts are to be performed on the part of the Pavilions, highlighted items will be provided.)



C-143 Specifications of measurement devices, flow meters and differential pressure transmitters, that Participants install are to comply with the following.

1) Flow meter guideline

> Use magnetic flow meters.

> As a general rule, install them horizontally to the ground, and ensure a 5D and 2D straight pipe length for the front flow and back flow sides.

> As a general rule, use magnetic flow meters of the same diameter size as pipes.

2) Differential pressure transmitter guidelines

> Keep the range at 0-400 kPa or less.

C-144 After the valves, pipes must be inclined toward buildings, and air must be released.

G-010 To improve the efficiency of refrigeration machines of the chilled water supply network for air conditioning that the Organiser installs and to reduce greenhouse gas emissions by reducing chilled water conveyance power, it is preferable if the difference in supplied and returning chilled water is 13°C or more (returning chilled water of 22°C or higher).

G-011 It is preferable if fresh-air inlet controls based on CO_2 concentration levels (inside rooms or returning air) that can both reduce air conditioning load and secure an appropriate amount of ventilation are implemented.

G-012 To reduce conveyance power and secure difference in the temperature of supplied chilled water, it is preferable if the minimum frequency of secondary chilled water pump inverters is adjusted to 12 Hz or below.

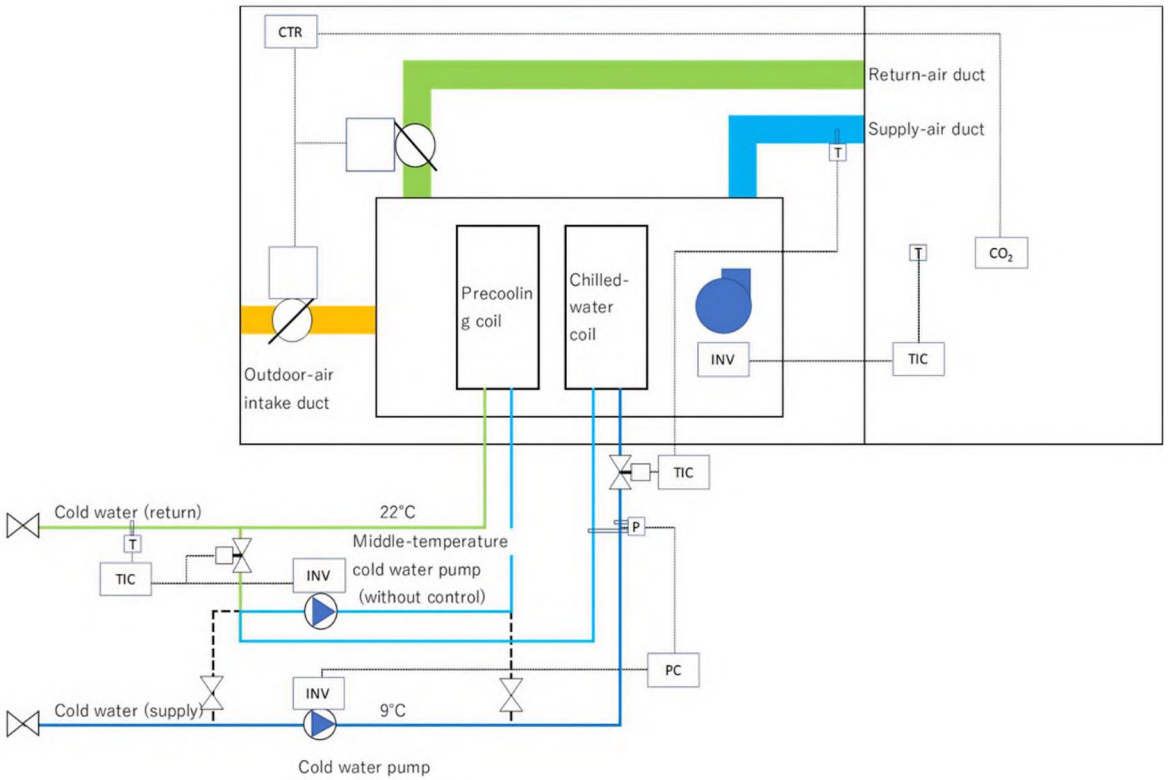
G-013 It is preferable if the pipes use plastic materials, such as in polythene water supply pipes or metal reinforced polythene pipes. The following are specific examples of recommended air conditioning systems.

1) Single-duct method in air conditioning units

> A method that applies pre-cooling coils in air conditioning units to secure difference in supplied chilled water. Applies medium temperature chilled water pumps and circulates medium temperature chilled water so that the returning chilled water is at 22°C.

> When secondary chilled water pumps malfunction, the medium temperature chilled water pumps can be used as backups of secondary chilled water pumps by switching valves.

Figure 4.7 Overview of the single-duct method system in air conditioning units



> Control for chilled water pump inverters: inverter control of chilled water pump variable flow according to differential pressure

> Control for air supply temperature in air conditioning units: control of chilled water coil two-way valve according to air supply temperature in air conditioning units

> Control for variable air volume in air conditioning units: fan inverter control in air conditioning units according to room temperature

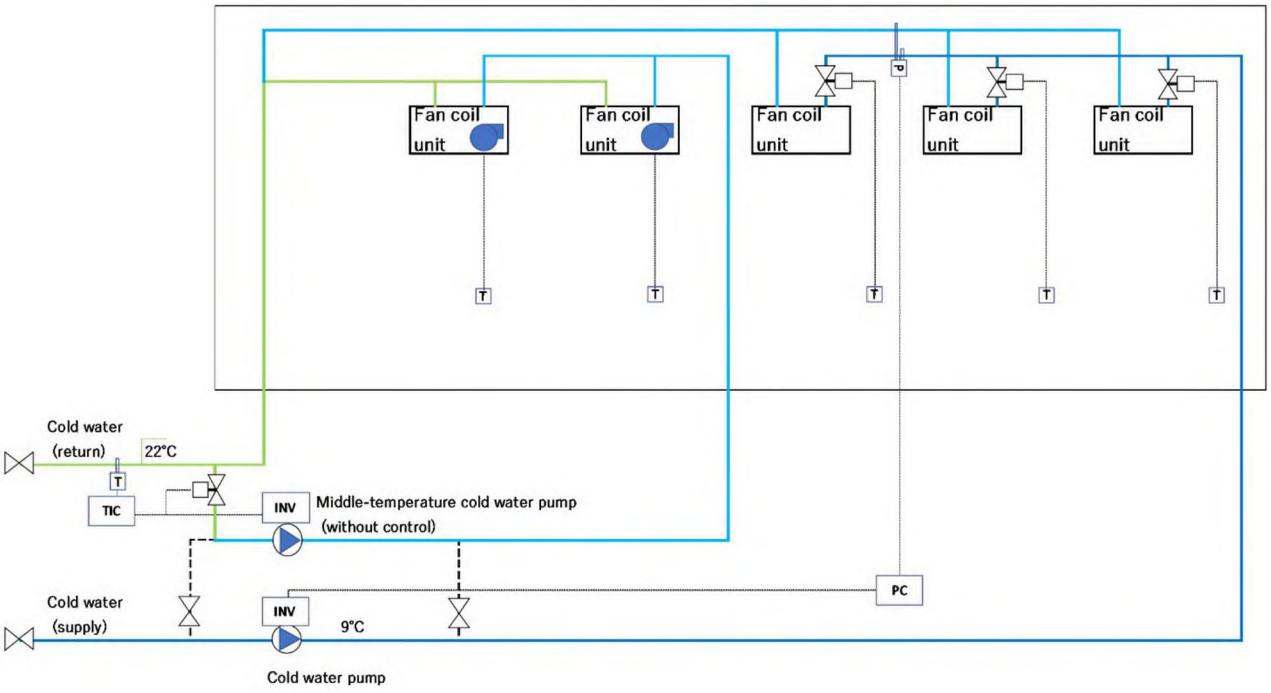
> CO_2 concentration level based control for fresh-air inlet volume: proportional control on fresh-air inlet metal ducts and return-air metal ducts according to room CO_2 concentration levels

> Control for returning chilled water temperature: two-way valve control on circulation of returning chilled water and inverter control on medium temperature chilled water so that the set temperature of returning chilled water is 22°C

2) Fan coil unit method

Fan coil units for two-way valve chilled water control for dehumidification and cooling and difference in supplied chilled water are enabled. Sensible heat processing fan coil units are installed. Difference in supplied chilled water is enabled by circulating medium temperature chilled water in sensible heat fan coil units.

Figure 4.8 Overview of fan coil unit method system



The performance level of sensible heat processing fan coil units (15°C chilled water) is 45% to 60% that of 7°C chilled water fan coil units. The following is referential information from manufacturers.

Table 4.3 Example of chilled water fan coil unit performance

Cooling capacity										
Model number	Inlet air temperature 27.0°CDB、19.5°CWB									
	Water volume range		Inlet temperature 15°C			Water volume range		Inlet temperature 7°C		
			Sensible heat	Total heat	Temperature difference			Sensible heat	Total heat	Temperature difference
	l/min		kW	kW	°C	l/min		kW	kW	°C
FWJC 12EH	Minimum	8.0	4.65	4.65	8.3	Minimum	8.0	7.76	7.76	13.9
	~	10.6	5.15	5.15	7.0	~	10.6	7.94	9.94	10.0
	Maximum	17.5	5.86	5.86	4.8	Maximum	17.5	8.75	11.35	9.3
FWBC 40FH6	Minimum	12.0	6.32	6.37	7.6	Minimum	12.0	9.05	11.24	13.4
	~	13.7	6.64	6.69	7.0	~	13.7	10.40	14.75	10.0
	Maximum	23.0	7.49	7.55	4.7	Maximum	23.0	10.59	15.23	9.5

*Calculated on the assumption that a two-pipe system and coils for large temperature difference (10 ° C) are used.

Cooling capacity										
Model number	Inlet air temperature 26.0°CDB、18.7°CWB									
	Water volume range		Inlet temperature 15°C			Water volume range		Inlet temperature 7°C		
			Sensible heat	Total heat	Temperature difference			Sensible heat	Total heat	Temperature difference
	l/min		kW	kW	°C	l/min		kW	kW	°C
FWJC 12EH	Minimum	8.0	4.27	4.27	7.7	Minimum	8.0	7.35	7.35	13.2
	~	9.2	4.49	4.49	7.0	~	13.0	7.55	9.03	10.0
	Maximum	17.5	5.37	5.37	4.4	Maximum	17.5	8.24	10.38	8.5
FWBC 40FH6	Minimum	12.0	5.81	5.85	7.0	Minimum	12.0	8.77	10.54	12.6
	~	12.1	5.83	5.87	7.0	~	19.1	9.84	13.28	10.0
	Maximum	23.0	6.88	6.93	4.3	Maximum	23.0	10.21	14.20	8.8

*Calculated on the assumption that a two-pipe system and coils for large temperature difference (10 ° C) are used.

> Control for chilled water pump inverters: chilled water pump inverter control according to differential pressure

> Control for fan coil units: proportional control of fan coil unit two-way valves according to room temperature

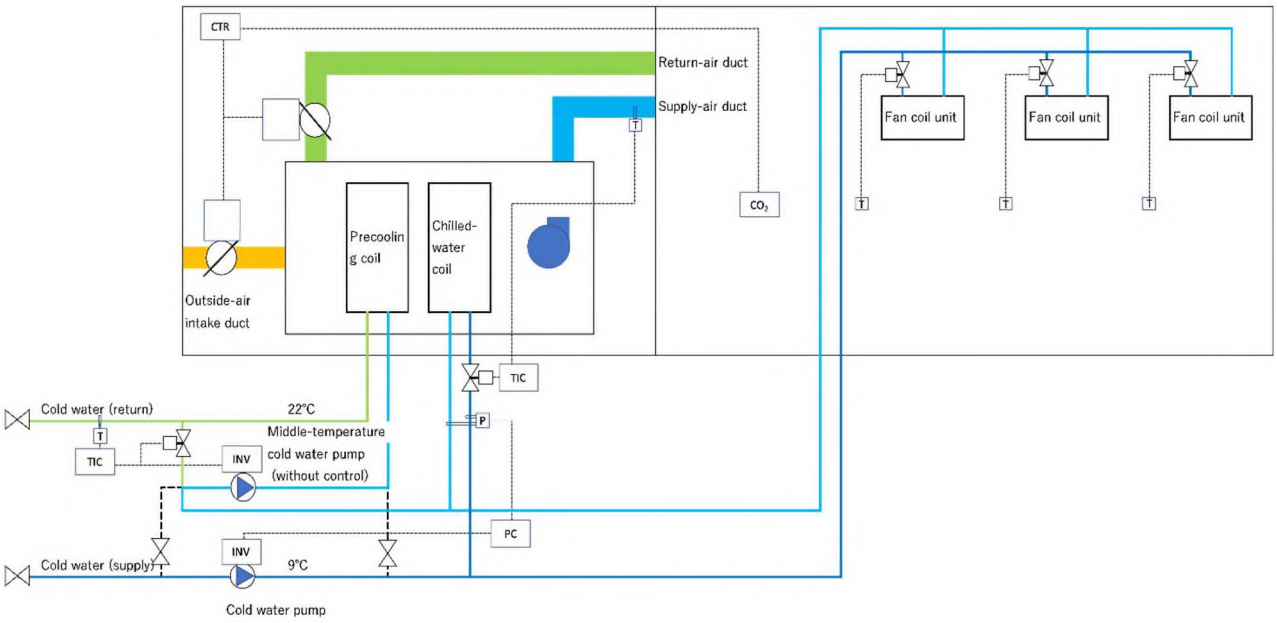
> Control for sensible heat processing fan coil units: fan coil unit control according to room temperature

> Control for returning chilled water temperature: two-way valve control on circulation of returning chilled water and inverter control on medium temperature chilled water so that the set temperature of returning chilled water is 22°C

3) Method combining air conditioning units and fan coil units

Air conditioning units use a method almost exactly the same as that described in the above (1) Single-duct method in air conditioning units. Air conditioning units operate on a constant air volume system, and fan coil units control room temperature. It can accommodate any small rooms, if any.

Figure 4.9 Overview of method system combining air conditioning and fan coil units



> Control for chilled water pump inverters: inverter control of chilled water pump variable flow according to differential pressure

> Control for air supply temperature in air conditioning units: chilled water coil two-way valve control according to air supply temperature in air conditioning units

> Control room temperature: proportional control of fan coil unit two-way valves according to room temperature

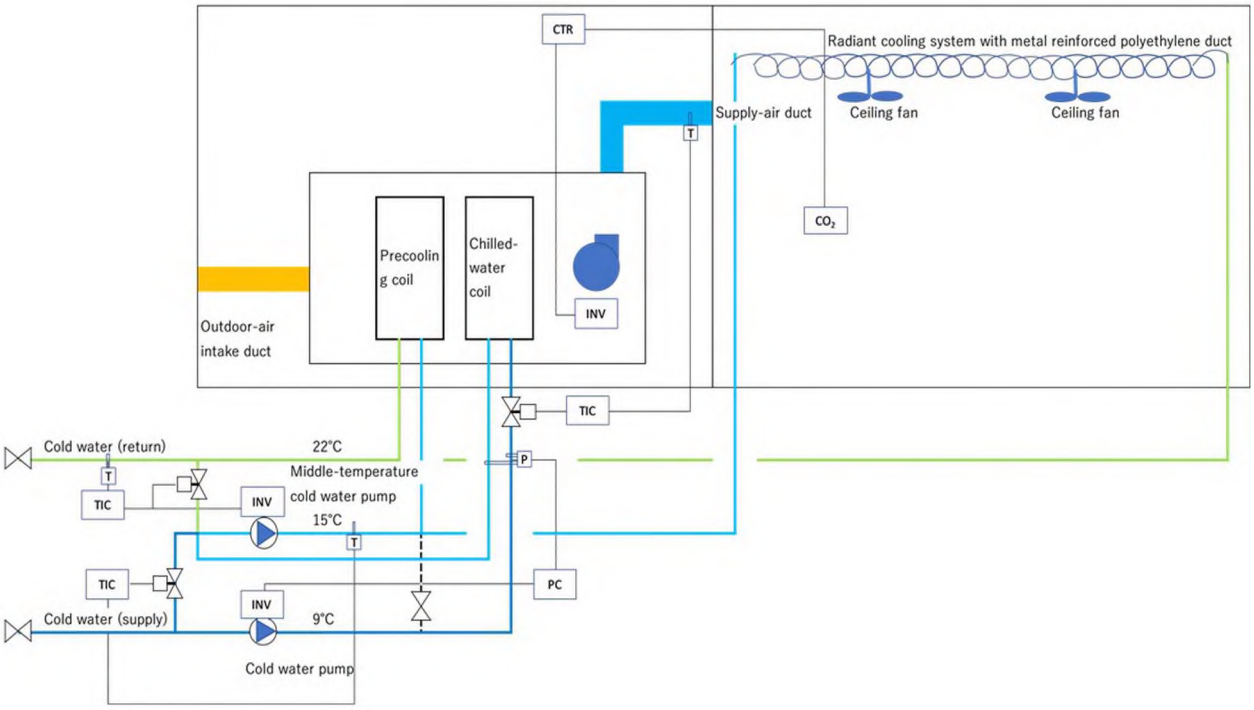
> CO2concentration level based control for fresh-air inlet volume: proportional control on fresh-air inlet metal ducts and return-air metal ducts according to room CO2 concentration levels

> Control for returning chilled water temperature: two-way valve control on circulation of returning chilled water and inverter control on medium temperature chilled water so that the set temperature of returning chilled water is 22°C

4) Method combining fresh-air processing air conditioning units and metal reinforced polythene pipe radiation cooling

The difference in supplied chilled water is secured with the pre-cooling coil of air conditioning units and metal reinforced polythene pipe radiation cooling within rooms, using 15°C medium temperature chilled water. Fresh-air processing air conditioning units are used for dehumidification, and metal reinforced polythene pipe radiation cooling is used for sensible heat processing within rooms.

Figure 4.10 Overview of method system combining fresh-air processing air conditioning and metal reinforced polythene pipe radiation cooling



> Control for chilled water pump inverters: inverter control of chilled water pump variable flow according to differential pressure

> Control for air supply temperature in air conditioning units: chilled water coil two-way valve control according to air supply temperature in air conditioning units

> Control room temperature: proportional control of fan coil unit two-way valves according to room temperature

> CO2 concentration level based control for fresh-air inlet volume: inverter control of fresh-air processing air conditioning unit fans according to room CO2 concentration levels

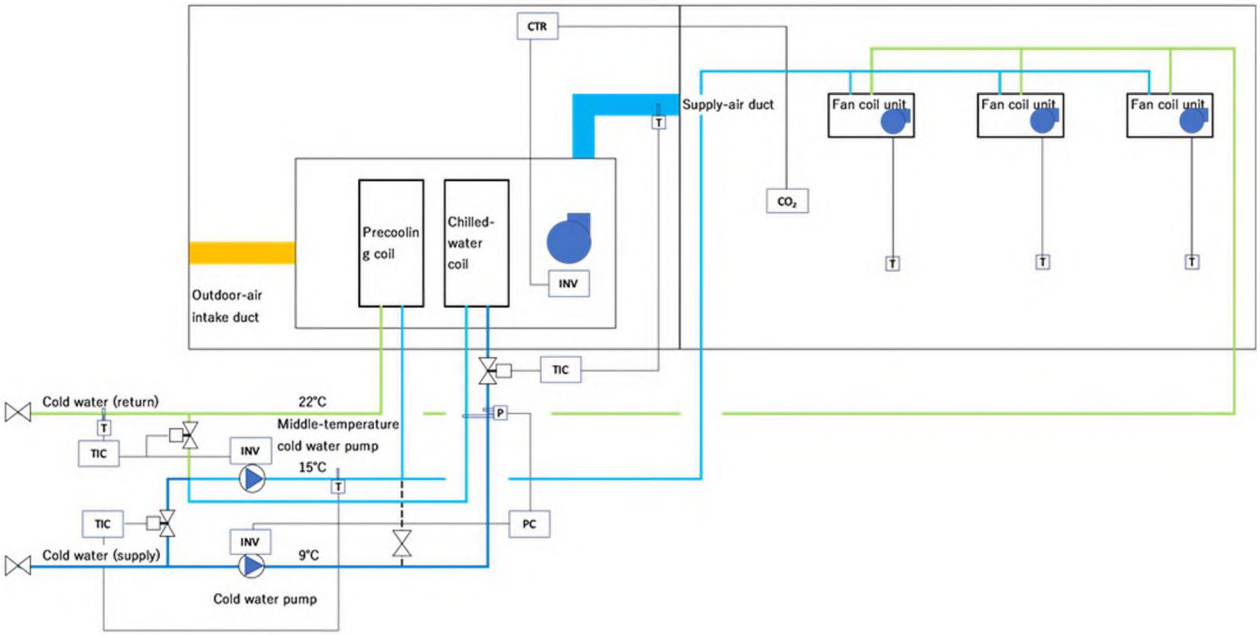
> Control for central chilled water temperature: control of chilled water two-way valves so that the temperature of supplied medium temperature chilled water is 15°C

> Control for returning chilled water temperature: two-way valve control on circulation of returning chilled water and inverter control on medium temperature chilled water so that the set temperature of returning chilled water is 22°C

5) Method combining fresh-air processing air conditioning units and sensible heat processing fan coil units

The difference in supplied chilled water is secured by the pre-cooling coil in air conditioning units and sensible heat processing fan coil units, using 15°C medium temperature chilled water. Fresh-air processing air conditioning units are used for dehumidification, and sensible heat processing fan coil units are used for sensible heat processing within rooms.

Figure 4.11 Overview of method system combining fresh-air processing air conditioning and sensible heat processing fan coil units



> Control for chilled water pump inverters: inverter control of chilled water pump variable flow according to differential pressure

> Control for air supply temperature in air conditioning units: chilled water coil two-way valve control according to air supply temperature in air conditioning units

> Control room temperature: proportional control of fan coil unit two-way valves according to room temperature

> CO2 concentration level based control for fresh-air inlet volume: inverter control of fresh-air processing air conditioning unit fans according to room CO2 concentration levels

> Control for central chilled water temperature: control of chilled water two-way valves so that the temperature of supplied medium temperature chilled water is 15°C

> Control for returning chilled water temperature: two-way valve control on circulation of returning chilled water and inverter control on medium temperature chilled water so that the set temperature of returning chilled water is 22°C

In (4) and (5) above, since the chilled water pipes within rooms are 15°C to 22°C, if fresh-air processing air conditioning units are used for dehumidification, insulation work will be unnecessary, and thus, it is assumed that construction costs will be reduced.

The following are documents concerning this Chapter that the Organiser requires Participants to submit. The documents are to be submitted to the Organiser via the online portal for the Official Participants. Designated formats for documents to be submitted will be made available on the online portal for the Official Participants.

Names of documents to be submitted:

> Application form for the approval of access to Utility services (4-1)

> [If necessary] Report on maximum power value (4-2-2)

> [If necessary] Application form for the approval of rain water storage systems (4-2-4)

> [If necessary] Report on LPG sales operators, report on fire prevention supervisor s fire prevention plan and fire preventive measures (4-2-5)

> [If necessary] Equipment list, instrumentation flow chart, and checklist for mandatory design requirements, specification table for chilled water secondary pump selection (4-2-7)

This Chapter describes labour environments, safety, and health environments that Participants need to secure in construction sites when building their Pavilions.

C-145 In building Pavilions, Participants must comply with Japanese laws, including the Act on Labour Standards and the Act on Labour Safety and Health, and relevant laws and regulations, including Ordinances of the Osaka Prefecture and Osaka City.

To make this Expo a role model for future expositions and other international events, attention will also be paid to sustainability of occupational safety and health in Pavilion construction. Participants are to enable sustainability based on the Policy on Holding a Sustainable Expo 2025 Osaka, Kansai, Japan, which the Organiser separately prepared to describe details, as well as the following items that are pursuant to the Policy. Sound workplace environments that are mindful of workers health are to be secured.

C-146 Contractors are to be mindful of workers health management. To prevent heat strokes particularly during constructions in the summer, on-site health environments and workers health conditions must be thoroughly managed. Emergency measures for any occurrences of heat strokes must be determined in advance, and any such occurrences must be attended to promptly. Refer to Chapter 7 for reporting on any occurrences of heat strokes.

G-014 To prevent long-hour labour, it would be preferred if Participants and contractors consider implementing construction plans and processes that allow all workers to rest two days a week (eight holidays in four weeks).

C-147 Contractors must develop safety and health plans within construction plans indicated in Chapter 2 and submit them. The following are items that should be included in the safety and health plan.

> On-site safety and health

> Rules and routine operations at work areas

C-148 Participants must support contractors in appropriately operating construction sites based on laws and regulations and this Guideline. Further, Participants are to confirm progress to check if there are any problems in the operation of construction sites.

C-149 If any accidents occur in relation to constructions, Participants must report them to the Organiser. Refer to Chapter 7 for accidents that require notification and reporting as well as details on procedures and methods of doing so.

The following are documents concerning this Chapter that the Organiser requires Participants to submit. The documents are to be submitted to the Organiser via the online portal for the Official Participants. Designated formats for documents to be submitted will be made available on the online portal for the Official Participants.

Names of documents to be submitted:

> Safety and health plans and attachments (5-3)

> Act on Labour Standards: Applicable operators report

> Act on Labour Standards: Agreements on overtime and holiday work

> Act on Labour Standards: Notification of agreement on one year-unit variable working hour system

> Act on Labour Safety and Health: Notification on construction plans

> Act on Labour Safety and Health: Notification on constructed structures and machine instalment

> Act on Labour Safety and Health: Report on commencement of projects by special principal employer operators

This Chapter describes sustainability efforts and the environmental impact assessment system (environmental assessment system).

Based on its theme Designing Future Society for Our Lives, the Expo aims to become an exposition that provides an opportunity for the world to convene in one place, prompts the exchange of diverse values, and facilitates new connections and creation.

To make this Expo a role model for future expositions and other international events, it will appropriately manage its impact on the environment and the society during and after the Expo from pre-exposition planning stages and thus, take heed of sustainability.

For this, the Organiser developed the Policy on the Sustainable Operation of the Expo. The Policy on Holding a Sustainable Expo 2025 Osaka, Kansai, Japan is available on the online portal for the Official Participants.

The Organiser will announce the Sustainable Procurement Code which it plans to develop going forward.

C-150 Participants must comply with the Policy on the Sustainable Operation of the Expo and perform constructions that are mindful of sustainability.

C-151 Participants must perform constructions in compliance with the Sustainable Procurement Code.

This project conducts an environmental impact assessment system (environmental assessment system) based on Osaka municipal ordinance on environmental impact assessment. The environmental impact assessment system (environmental assessment system) is a system in which the Organiser itself researches, forecasts, and assesses in advance what kind of impact the Expo will have on the environment and while interviewing residents for their opinions, takes proper action to preserve and create environments.

In October 2021, the Organiser publicly announced the Environmental Impact Assessment Preparation Document (hereinafter referred to as "Preparation Document") concerning the hosting of the Expo in the umeshima Island district. Participants are to confirm the Environmental Impact Assessment Document (hereinafter referred to as "Assessment Document") that will be prepared and publicly announced by the Organiser at a later date and reflect its content in construction work and demolition/removal work.

The Preparation Document is available on the website of the Organiser.

After being publicly announced, the Assessment Document will be made available on the Organiser’s website.

C-152 Participants are to plan and carry out construction work so that they meet criteria set forth in the Assessment Document that the Organiser will publicly announce going forward.

C-153 The Organiser may instruct necessary measures according to the scale of each Participant s construction work, such as limitation on the number of construction-related vehicles, and Participants must comply with these instructions. The content of specific measures will be separately notified.

- Policy on the Sustainable Operation of the Expo
- Sustainable Procurement Code
- Environmental Impact Assessment Preparation Document
  https://www.expo2025.or.jp/news/news-20211001-01/

This Chapter describes information management systems required of Participants and procedures for notifications within them, as well as quality control.

C-154 Participants are to notify and consult with the Organiser via the online portal for the Official Participants. The following are assumed notification items (Q A, documents to be submitted, request items, etc.) during construction work.

> Matters concerning relevant laws and regulations such as those on safety and health standards, labourer welfare standards, and environmental standards

> Matters concerning construction work such as distribution and technical items related to construction

> Matters concerning quality of construction materials that are not certified in Japan under specifications such as the JIS and the Japanese Agricultural Standards (JAS)

> Matters concerning procedures entry to Plots and security

> Matters concerning doubts regarding Plots and coordination between Participants or with the Organiser

7-1-1. Coordination between Participants

C-155 If any matters that require coordination between Participants arise, such as those concerning the boundaries between adjacent Plots, the involved Participants must discuss the matters and resolve them amongst themselves. For matters requiring coordination with the Exposition Venue overall, Participants must coordinate with the Organiser.

C-156 In the event any matters requiring coordination arise between Participants arise, both parties must retain records and report about the matters, including the background of the matters, if requested by the Organiser.

7-1-2. Notification and reporting in emergencies

C-157 In the event of any accidents within Plots, Participants must report them to the Organiser and take emergency measures required immediately after the accident. Figure 7.1 indicates procedures for reporting when accidents arise. The first report immediately after the accident must be made, and the second and third document-based report are to be made as needed. After attending to the accident, Participants must put together respective document-based reports, prepare an accident report which include recurrence prevention measures, and submit the reports to the Organiser via the online portal for the Official Participants. Additionally, when accidents occur for reasons attributable to relevant parties of the Participants, the Participants must report them based on the same procedures, even if the accident occurred outside of the Participants Plot.

C-158 The following indicates accidents that require reporting to the Organiser.

> Accidents defined in the Labour Safety and Health Regulations (described in (1) through (4) below)

(1) If any deaths or serious occupational hazards and accidents (those affecting three or more persons, as a general rule) occur

(2) If workers take a leave of absence due to occupational hazards (leaves of absences of four or more days, as a general rule)

(3) When fires, explosions, and collapses of construction machines occur (if accidents indicated in Article 96, Paragraph 1, Item 1-10 in the Labour Safety and Health Regulations occur)

(4) Otherwise, if affected workers are treated at hospitals, even if the injuries are mild, and the accident is reported to the Labour Standards Inspection Office as occupational hazards

> Cases that affect the environment (such as large-scale oil leakage)

> Acts or physical damage that inhibit activities of the Organiser or Participants, or if there are any serious effects on other Participants

> If there are any serious effects on third parties

> If any other events that would prompt reporting to the police or fire department occur

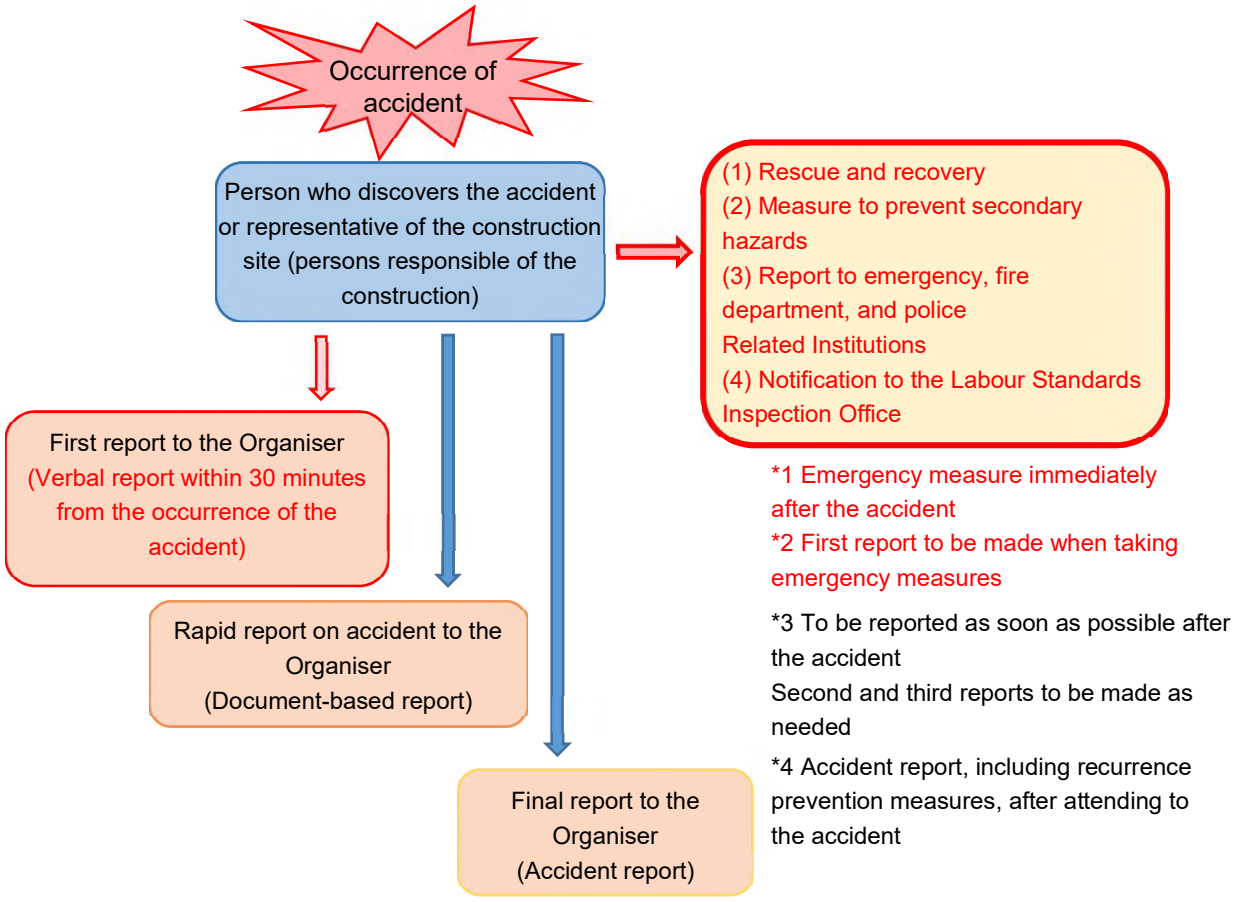
> If there are any violations concerning the security of the Exposition Venue

> If any disadvantageous media coverage on the Expo or acts that may diminish the reputation of the Organiser occur for reasons attributable to Participants

C-159 Participants must indicate its reporting procedures for accidents as well as persons responsible and relevant parties in case of accidents in the List of Emergency Contact submitted as part of the Construction Work Plan Within the Plot. For further information, please refer to Chapter 2.

C-160 Participants must record all accidents that occur within their Plots as well as accidents outside their Plots that are attributable to their relevant parties and report them to the Organiser in the Construction Progress Report. For further information, please refer to Chapter 2.

Figure 7.1 Reporting procedure at times of accidents



In the event that the Organiser identifies any violation of contractual clauses provided in Participation Contract or provisions in Construction and Demolition Work Guidelines for Self-Built Pavilions (violations of laws and regulations or false reports), or otherwise, in the event that accidents requiring report to relevant parties arise, the Organiser will issue a non-conformance notice (instructions on improvement) to the Participants. Participants to whom non-conformance notices (instructions on improvement) are issued must not continue further operations until the Organiser approves of corrections to the identified violations. Refer to 7-3-2. Periodic confirmation regarding status of supervision for detailed examples of cases in which non-conformance notices (instructions on improvement) are issued due to violations of laws and regulations or false reports.

Participants are to control quality in compliance with relevant laws and regulations, such as the Building Standards Act of Japan.

C-161 Participants must receive a Final Inspection by the Organiser after completing construction work. During the inspection, Participants must submit to the Organiser a copy of the Certificate of Final Inspection to

validate the receipt of completion inspection provided in Article 7 of the Building Standards Act of Japan. For further information, please refer to Chapter 9.

C-162 After completing construction for exhibitions and instalment of exhibited items, Participants must obtain User s Permit from the Organiser. In doing so, Participants must submit to the Organiser inspection reports via the online portal for the Official Participants and guarantee quality control that is compliant with relevant Japanese laws and regulations. Formats for the inspection reports will be posted on the online portal for the Official Participants as of plan. For further information, please refer to Chapter 9.

7-3-1. Supervision system to secure quality

To secure the quality of buildings and exhibited items, Participants must support construction supervisors and contractors and periodically confirm the status of supervision that the construction supervisors perform and the status of construction management that contractors perform. To secure the quality of the Expo, the Organiser will periodically confirm the status of supervision that the construction supervisors perform and the status of construction management that contractors perform. Please refer to 7-3-2. Periodic confirmation regarding status of supervision.

7-3-2. Periodic confirmation regarding status of supervision

To confirm if Participants construction supervisors and contractors are complying with construction requirements provided in relevant standards and Construction and Demolition Work Guidelines for Self-Built Pavilions, the Organiser will confirm Construction Progress Reports (refer to Chapter 2). The Organiser will confirm reports and photos on the status of construction work within the Construction Progress Report, and if the Organiser determines that correction need to be made in the status of supervision performed by the construction supervisors and the status of construction management performed by the contractors, the Organiser will require the Participants to make corrections. If improvement cannot be observed within a certain period after the corrections are required, the Organiser may issue a non-conformance notice (instructions on improvement) provided in 7-2. Notification and measures for violation of rules to the Participants. Participants are to use effort to prepare documents based on latest information.

C-163 Participants must retain records of inspections and tests performed by construction supervisors.

The following are documents concerning this Chapter that the Organiser requires Participants to submit. Documents that need to be submitted are to be submitted to the Organiser via the online portal for the Official Participants. Designated formats for documents to be submitted will be made available on the online portal for the Official Participants.

Names of documents to be submitted:

> Copy of Certificate of Final Inspection (7-3)

> Inspection report (7-3)

> Standard Specifications on Public Construction Work

> Labour Safety and Health Regulations

> Building Standards Act and Order for Enforcement of the Act

This Chapter describes procedures and construction rules for demolition/removal work and Return of Plots.

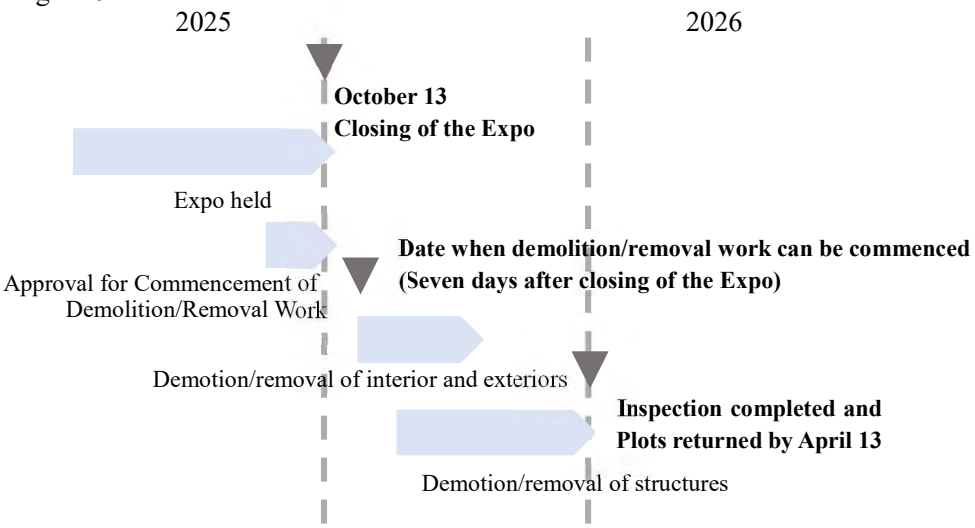
C-164 Participants are to commence demolition/removal work for Pavilions after obtaining permit for such construction work. For the main schedule until demolition/removal work and the Return of Plots, refer to Figure 8.1.

C-165 Demotion/removal work, including the shipping out exhibitions, should be commenced after seven days from the closing of the Expo.

C-166 Participants must perform demolition/removal work for Pavilions and within Plots and complete inspections and return the Plots by the Organiser by April 13, 2026.

C-167 Participants must return the Plots to the Organiser in a condition equivalent to that when the Plots were handed over. For details, refer to 8-6. Restoration to original state and Return of Plots

Figure 8.1 Main schedule for removal work for Pavilions and Return of Plots



C-168 Participants are to obtain from the Organiser the permit for Commencement of Demolition/Removal Work via the online portal for the Official Participants. Applications are to be made by 15 days prior to the planned date of construction commencement. The application shall be accompanied by required documents. For further information, please refer to Chapter 9.

Demotion/removal work can be commenced after the Organiser issues Permit for Commencement of Demolition/Removal Work.

C-169 Participants and its contractors must complete demolition/removal work in a manner that meets

requirements provided in Chapter 2.

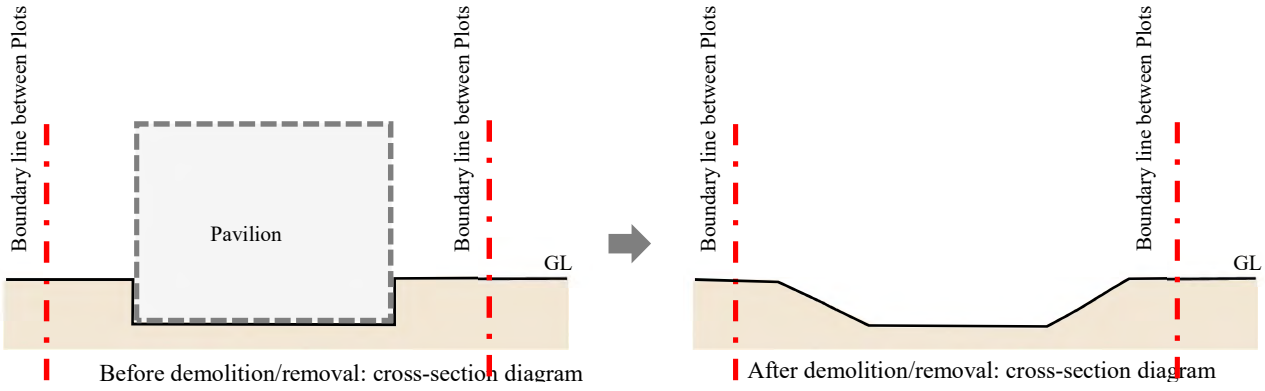
C-170 Participants must bear responsibility of their own assets and security within Plots.

C-171 Participants and its contractors must complete demolition/removal work in a manner that meets requirements provided in Chapters 5 and 7.

C-172 Participants are to notify the Organiser that Utility services will no longer be needed via the online portal for the Official Participants before returning Plots and process final accounting procedures for all Utility services.

C-173 Participants must apply to the Organiser for on-site Return of Plot inspections via the online portal for the Official Participants website by 10 days prior to the planned date of Return of Plot. The application shall be accompanied by required documents. For further information, please refer to Chapter 9.

C-174 After demolition and removal of foundations and underground structures, the ground must be back-filled with earth and sand within Plots and levelled and then, smoothened appropriately so that it does not affect surrounding ground.



Before demolition/removal: cross-section diagram

After demolition/removal: cross-section diagram

C-175 Before returning Plots to the Organiser, Participants must confirm that all structures (above and below ground level) installed by the Participants are removed.

Participants must compare the status of levelling work when excavation work was completed during the construction of the Pavilions and that when the demolition/removal work is completed to confirm that there are no leakages of waste material and oil within Plots after the demolition/removal work. Otherwise, if the Organiser requires any inspections, Participants must perform such inspections.

C-176 If any soil that may be contaminated with oil is found after demolition/removal work, Participants are to

perform inspections and take measures based on the Guideline on Oil Contamination Measures. Similarly, if the Organiser identifies any oil contamination during inspections at the time of Return of Plot, Participants are to perform inspections and take measures.

C-177 Participants must submit to the Organiser reports on demolition/removal work. Reports must indicate the following information.

> Reports on inspections after the completion of demolition/removal work that are prepared by the Participants and contractors (on matters including results of confirmation on any waste material or oil leakages)

> Report on the volume of generated (disposed) waste material (recycle rate of waste material and where the waste material was disposed at)

> Photo of the Plot condition after completing demolition/removal work

The Organiser will perform necessary inspections for Plot return, and if the Organiser determines that there are no issues, it will issue to Participants Attestation of Return of Plot certifying the successful completion of procedures.

The following are documents that Participants are obligated to submit to the Organiser in relation to this Chapter. The documents are to be submitted to the Organiser via the online portal for the Official Participants. Designated formats for the documents to be submitted will be made available on the online portal for the Official Participants as of plan.

Names of documents to be submitted:

> Application form for Permit for Commencement of Demolition/Removal Work (8-2)

> Notification on discontinuing use of Utility services (8-5)

> Application for Return of Plot inspection (8-6)

> Report on completion of demolition/removal work (8-6)

> Building Standards Act (e.g., removal notification)

> Act on Noise Regulation

> Vibration Regulation Act

> Osaka Prefectural Ordinance on Maintenance of Living Conditions

> Air Pollution Control Act

> Construction Material Recycling Act

> Construction Recycling Promotion Plan 2020

> Guideline on Oil Contamination Measures

This Chapter describes main procedures based on this Guideline (excluding procedures indicated in other Chapters) and Japanese laws.

If any designing or construction supervision is performed for the construction of buildings, such activities must be performed by architects or construction supervisors who have architect qualifications with permits based on laws and regulations. If any construction work for building structures is performed, such activity must be performed by contractors who have obtained necessary permits pursuant to laws and regulations.

C-178 Participants must notify the Organiser the names and contract information of the architects and construction supervisors. Architects are to be indicated in the application for design approval. Information on construction supervisors is to be submitted to the Organiser via the online portal for the Official Participants by 15 days prior to the commencement of construction work.

C-179 Participants must notify the Organiser on the names of contractors by 15 days prior to the commencement of construction work.

C-180 If Participants perform construction work for building structures, they must appoint on-site supervisors at the construction site for communication and coordination with the Organiser and other construction parties.

C-181 Participants must notify the Organiser the names and contract information of the on-site supervisors by 15 days prior to the commencement of construction work.

C-182 If the Organiser deems that on-site supervisors violated Laws and Regulations, the Organiser may instruct the Participants to dismiss the on-site supervisor in question, and the Participants must comply with such instructions. In such case, the Participants must immediately appoint a different on-site supervisor and notify the Organiser pursuant to the preceding Paragraph.

Documents can be submitted via the online portal for the Official Participants website. The data of the documents are to be in PDF format. Additionally, the language used is to be Japanese.

C-183 Documents (excluding those submitted to Related Institutions pursuant to laws and regulations) are to be submitted in formats specified in the various lists of formats. Documents submitted to Related Institutions pursuant to laws and regulations must comply with standards and rules of authorities provided in Japanese laws and municipal ordinances. For documents to be submitted and submission processes concerning design, refer to this Guideline and Design Guidelines for Type A (Self-Built) Pavilions.

C-184 Participants must bear all commission fees for procedures with Related Institutions concerning activities such as Application for a Building Permit and Final Inspections.

For design approval procedures, refer to the Design Guidelines for Type A (Self-Built) Pavilions. The Organiser will review submitted documents and indicate items that require revision or grant approvals to the Participants via the online portal for the Official Participants. Further, this approval does not exempt Participants from their obligations and responsibilities provided in Japanese domestic laws and regulations.

If any changes to design arise, prior to the performance of construction work, the Participants are to submit a design plan set out in the Design Guidelines for Type A (Self-Built) Pavilions and obtain the Organiser's approval for items other than slight changes.

If Participants perform construction work that differ from that indicated in approved plans, the Organiser may order the discontinuation of construction work.

9-3-1. Submission of first submission documents (general Design Plan)

The Organiser will review submitted documents for the first submission documents (general Design Plan) and indicate items raised, including points of revision, or grant approvals to the Participants via the online portal for the Official Participants. After approvals of the submitted documents for the first submission documents (general Design Plan), Participants may move on to the final design.

C-185 Participants must respond to points raised by the Organiser, including all points of revision.

9-3-2. Submission of second submission documents (final Design Plan)

The Organiser will review submitted documents for the second submission documents (final Design Plan) and indicate items raised, including points of revision, or grant approvals to the Participants via the online portal for the Official Participants. After submitted documents for the second submission documents (final Design Plan) are approved, Participants may apply for the Permit for Commencement of Construction.

C-186 Participants must respond to points raised by the Organiser, including all points of revision.

9-3-3. Inspections for allotted Plots

If Participants perform ground inspections before the handover of allotted Plots, they must do so after obtaining prior approvals from the Organiser and by bearing the costs themselves. To obtain prior approvals for the Plots, Participants must notify the Organiser via the online portal for the Official Participants. The period in which prior approvals can be made will be notified at a later date.

C-187 If Participants perform ground inspections within the allotted Plots, they must submit inspection reports to the Organiser. Further, Participants are to approve the disclosure of inspection reports to other Participants via the online portal for the Official Participants.

After being issued Permits for Commencement of Construction, Participants may enter their own Plots and commence construction work. The Organiser will review submitted documents and indicate items raised, including points of revision, or grant permits to the Participants via the online portal for the Official Participants. Further, this permit does not exempt Participants from their obligations and responsibilities provided in laws and regulations.

C-188 To obtain Permits for Commencement of Construction, Participants must submit to the Organiser the following documents via the online portal for the Official Participants by 15 days prior to the planned start date of construction work.

> Application form for Permit for Commencement of Construction

> Copy of confirmation certificate

> Construction work plan

> Pledge (concerning compliance with laws and regulations during construction work)

> Notification on Participation in Communication and Coordination Council

C-189 Participants may not commence construction work until they are issued Permits for Commencement of Construction.

C-190 If any changes in design arise after commencing construction work, and confirmation certificates are newly issued, Participants must additionally submit the following documents to the Organiser via the online portal for the Official Participants.

> Copy of confirmation certificate for the design change

The Organiser, relevant bodies, or persons designated by the Organiser or the Related Institutions may enter construction sites and inspect the construction work.

C-191 If the Organiser, relevant bodies, or persons designated by the Organiser or the Related Institutions deem that there are violations of laws and regulations based on the on-site inspection, they may instruct the Participants to correct the violations, and the Participants must comply with the instructions.

When Participants complete construction of buildings and outdoor spaces, they are to apply for construction completion inspections to the Organiser via the online portal for the Official Participants, and the Organiser will perform the inspections. Participants may simultaneously process application procedures for legal Final Inspections.

If the construction work passes inspections, the Organiser will issue Certificates of Completion to the Participants via the online portal for the Official Participants website.

C-192 For the issuing of the Certificate of Completion, Participants must submit a copy of the Certificate of Final Inspection.

> Copy of Certificate of Final Inspection

C-193 When Participants complete construction work for structures and outdoor spaces, they must submit the following documents to the Organiser and apply for inspections by seven days prior to the requested date of inspection. This application must be made after construction work at the site is completed and after construction supervisors and on-site supervisors confirm that the construction work comply with approved drawings.

> Application for inspection for Certificate of Completion

> Drawing of completed construction (construction work for building structures)

C-194 If the Organiser deems that there are violations of Laws and Regulations based on the Final Inspection, they may instruct the Participants to correct the violations, and the Participants must comply with the instructions.

When Participants complete all construction work for exhibitions and instalment of exhibited items, they are to apply for inspections for User s Permit, and the Organiser will inspect the Exhibition Space.

If the construction work passes the inspection, the Organiser will issue a Certificate of User s Permit for the Participant via the online portal for the Official Participants. Further, this permit does not exempt Participants from their obligations and responsibilities provided in laws and regulations.

After receiving the certificate of permit, Participants may start using the Pavilions. Participants are to bear responsibility for the operation of their Pavilions.

C-195 When Participants complete all construction work for exhibitions and instalment of exhibited items, they are to submit the following documents to the Organiser and apply for inspections via the online portal for the Official Participants by seven days prior to the requested date of inspection. This application must be made after construction work at the site is completed and after on-site supervisors confirm that the construction work comply with approved drawings.

> Application for Inspection for User's Permit

> Inspection report

> Drawing of completed construction (exhibition and interior construction work)

C-196 If the Organiser deem that there are violations of Laws and Regulations based on the User s Permit inspection, they may instruct the Participants to correct the violations, and the Participants must comply with the instructions.

Participants are to bear responsibility for the demolition and removal work of their Pavilions. Participants may commence construction work after being issued Certificates of Permit for Commencement of Demolition/Removal Work. The Organiser will review the submitted documents and inform Participants of the matters to be pointed out including corrections or give permit through the online portal for the Official Participants. This permit does not exempt Participants from their obligations and responsibilities under the law.

C-197 To obtain Certificates of Permit for Commencement of Demolition/Removal Work, Participants must submit to the Organiser the following documents via the online portal for the Official Participants by 15 days prior to the start of demolition/removal work.

> Application form for Permit for Commencement of Demolition/Removal Work

> Demotion/removal work schedule

> Demotion/removal work plan

C-198 Participants must not start construction until they receive Certificates of Permit for Commencement of Demolition/Removal Work.

When Participants complete demolition/removal work, they will apply to the Organiser for inspections for Return of Plot, and the Organiser will perform the inspections. Final cost charges by the Organiser must be settled before Participants apply for Final Inspections to the Organiser.

If the demolition/removal work passes inspections, the Organiser will issue Certificate for Return of Plot for the Participant via the online portal for the Official Participants website.

C-199 When Participants complete demolition/removal work, they must submit the following documents to the Organiser and apply for inspections via the online portal for the Official Participants by 10 days prior to the requested date of Return of Plot.

> Application for Return of Plot Inspection

> Final settlement form for Utility fees

> Report on completion of demolition/removal Work

C-200 If the Organiser deems that there are defects in construction, such as remaining items, based on the Return of Plot Inspection, they may instruct the Participants to correct the violations, and the Participants must comply with the instructions.

> Building Standards Act: Application for Final Inspection

The following are main laws and regulations, ordinances, and standards that should be referred to.

Participants are to comply with and refer to other relevant standards and such indicated by the Organiser.

Name of law, regulation, ordinance, or standard
- Act on Construction Business and orders/regulations for enforcement of the act
- Building Standards Act and orders/regulations for enforcement of the act
- Osaka Prefectural Ordinance on the Enforcement of the Building Standards Act , Osaka Municipal Ordinance on the Enforcement of the Building Standards Act
- Act on Fire Service and orders/regulations for enforcement of the act - Osaka Municipal Ordinance on Fire Prevention
- Act on Road Traffic and orders/regulations for enforcement of the act
- Act on Waterworks and orders/regulations for enforcement of the act - Osaka Municipal Ordinance on Waterworks and Water Supply - Enforcement Rules for the Osaka Municipal Ordinance on Waterworks and Water Supply - Standards on Construction Design and Work for Water Supply Apparatus
- Act on Sewage - Osaka Municipal Ordinance on Sewage
- Act on Harbour and orders/regulations for enforcement of the act - Guideline on Administrative Handling of Construction Work for Buildings and Structures in the Subdistrict of the Osaka Port Area
- Act on Promoting Easily Accessible Public Transportation and Facilities for the Aged and the Disabled (Barrier-Free Act) and orders/regulations for enforcement of the act - Osaka Prefectural Ordinance on Welfare Communities - Osaka Ciry Government Guidelines for Accessible Urban Planning
- Act on Parking Lot and orders/regulations for enforcement of the act
- Act on Outdoor Advertising and orders/regulations for enforcement of the act - Osaka Municipal Ordinance on Outdoor Advertising
- Act on Labour Standards and orders/regulations for enforcement of the act
- Act on Labour Safety and Health and orders/regulations for enforcement of the act
- Act on Labour Safety and Health and orders/regulations for enforcement of the act
- Act on the Promotion of Securing Safety and Health for Construction Workers and orders/regulations for enforcement of the act
- Act on Workman s Compensation Insurance and orders/regulations for enforcement of the act
- Technical Guidelines for Construction Machinery and Construction Work Safety
- Act on National Tax Collection
- Basic Act on the Environment and relevant laws and regulations
- Act on Soil Contamination Countermeasures and orders/regulations for enforcement of the act - Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to soil)
- Act on Water Pollution Prevention and orders/regulations for enforcement of the act - Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to water quality)
- Act on Noise Regulation and orders/regulations for enforcement of the act - Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to noise)
- Act on Vibration Regulation and orders/regulations for enforcement of the act - Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to vibration)
- Act on Air Pollution and orders/regulations for enforcement of the act- Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to air pollution)
- Basic Act on the Promotion of a Recycle-Oriented Society and orders/regulations for enforcement of the act
- Act on the Promotion of Recycled Resource Use and orders/regulations for enforcement of the act
- Act on Waste Management and Public Cleansing and orders/regulations for enforcement of the act
- Osaka Prefectural Ordinance on the Promotion of a Recycle-Oriented Society
> Construction Material Recycling Act and orders/regulations for enforcement of the act
- Guidelines for the Promotion of Proper Treatment of Construction By-products

- Act on the Promotion of Procuring Eco-Friendly Goods and Services and orders/regulations for enforcement of the act
- Act on the Promotion of Contracts That Are Attentive to Reduction of Greenhouse Gas Emission by the Nation and orders/regulations for enforcement of the act
- Osaka Prefectural Policy on Green Procurement
- Guidelines on Construction Waste Material Processing
- Act on Architects and orders/regulations for enforcement of the act
- Act on Landscape and orders/regulations for enforcement of the act - Osaka Municipal Ordinance on Urban Landscape
- Act on Entertainment Facilities and orders/regulations for enforcement of the act
- Act on Food Sanitation and orders/regulations for enforcement of the act
- Act on the Measures by Large-Scale Retail Stores for Preservation of Living Environment and orders/regulations for enforcement of the act - Standards on Administrative Handling of Establishing Medium-Scale Retail Stores

The following is a list of main necessary notifications to respective government bodies at the time of construction work. Use the following as reference; submit other necessary notifications not indicated below as needed.

Notifications that the Organiser will submit as of plan

Name of notification	Submit to	Period of submission	Remarks (those applicable to notification, etc.)
Building Standards Act and orders/regulations for enforcement of the act, Osaka Prefectural Ordinance on the Enforcement of the Building Standards Act			
Application for Final Inspection (including reviews of relevant provisions)	Construction supervision department, Planning and Coordination bureau, City of Osaka / confirmation auditing bodies	By 7 days prior to inspections	Structures that have obtained confirmation certificates
Notification on removal of structures	Construction supervision department, Planning and Coordination bureau, City of Osaka	By the commencement of demolition	Demolition of structures exceeding 10 m^2 in size
Act on Fire Service and orders/regulations for enforcement of the act, Osaka Municipal Ordinance on Fire Prevention			
Notification on commencement of construction of equipment, etc. subject to construction and maintenance, Notification on design of firefighting equipment, etc., Notification on design of fire extinguishing apparatus for flame transmission prevention	Konohana fire station of Fire Department, City of Osaka	By 10 days prior to commencement of construction	Construction work for instalment of Fire Fighting Equipment, etc.
Notification on instalment of Fire Fighting Equipment, etc.	Same as above	Within 4 days from completion of construction	When installing Fire Fighting Equipment, etc. for structures applicable to fire prevention
Notification on start of use of structures applicable to fire prevention	Same as above	By 7 days prior to the start of use	When starting the use of structure applicable to fire prevention

Notification on appointment of fire control administrator, Notification on development of firefighting plan	Same as above	By the start of the use of structures applicable to fire prevention	Structures applicable to fire prevention that require fire control administrators
Notification on storage of small-quantity hazardous items or designated combustible materials,etc.	Same as above	By 7 days prior to handling	When handling specified or more volume of small-quantity hazardous materials or designated combustible materials
Notification on offices prepared at sites for construction work	Same as above	By 3 days prior to doing so	When preparing offices at sites for construction work
Notification on instalment of fuel cell, transformer, rapid charger, power generator, and storage cell equipment	Same as above	By 5 days prior to starting the instalment construction	When installing the equipment indicated on the left
Notification on holding events	Central fire station of Fire Department, City of Osaka	By 3 days prior to doing so	(Submitted by the Organiser)
Act of Waterworks and orders/regulations for enforcement of the act, Osaka Municipal Ordinance on Waterworks and Water Supply			
Construction application form and construction work approval application for water supply apparatus	Water Service Installation Department, Engineering Division, Osaka Municipal Waterworks Bureau	Before commencing construction work	(Submitted by the Organiser)
Notification on construction completion	Same as above	When completing construction work	(Submitted by the Organiser)
Notification on commencing use	Same as above	Before use	(Submitted by the Organiser)
Act on Sewage and orders/regulations for enforcement of the act, Osaka Municipal Ordinance on Sewage			
Application form for confirmation of water drainage equipment plans	*Facility Management Department, Sewerage Division, Public Works Bureau, City of Osaka, *Clearwater OSAKA Corporation	Individual confirmation	(Submitted by the Organiser)

Notification on detoxification facility instalment plans	Facility Management Department, Sewerage Division, Public Works Bureau, City of Osaka	Beforehand	When installing detoxification facilities or taking necessary measures to enable water quality at water drainage standard levels or lower
Act on Outdoor Advertising, Osaka Municipal Ordinance on Outdoor Advertising			
Application for outdoor advertising permits	Management Department, General Affairs Division, Public Works Bureau, City of Osaka	3 weeks before commencing construction work	When installing outdoor advertising
Notification on construction completion	Management Department, General Affairs Division, Public Works Bureau, City of Osaka	When completing instalment	When installing outdoor advertising
Act on Labour Standards and orders/regulations for enforcement of the act			
Applicable business report	Nishinoda Labour Standards Inspection Office	After commencing business, without delay	When commencing business applicable to the Act on Labour
Notification on agreement concerning overtime and holiday working	Nishinoda Labour Standards Inspection Office	Before commencing, without delay	When employees are required to work overtime for one day and a certain period of more than one day or work on holidays
Notification on agreement concerning one-year unit variable working hour systems	Nishinoda Labour Standards Inspection Office	Before commencing, without delay	Business locations implementing one-year unit variable working hour systems
Application form for permit concerning intermittent day or night shift working	Nishinoda Labour Standards Inspection Office	Before commencing, without delay	When being exempted in terms of working hours due to intermittent day or night shifts
Notification on work regulations	Nishinoda Labour Standards Inspection Office	After establishing, without delay	Business locations that use 10 or more workers at all times
Act on Labour Safety and Health and orders/regulations for enforcement of the act			
Notification on construction work	Nishinoda Labour Standards Inspection Office	Differs according to content of plan	When commencing work defined in Article 88 of the Act on Labour Safety and Health

Notification on instalment of structures and machines	Nishinoda Labour Standards Inspection Office	When commencing constructions	When installing, transferring, or changing machines specified in the first part of Appendix Table 7 of the Act on Labour Safety and Health
Report on commencement of business as a special principal employer	Nishinoda Labour Standards Inspection Office	When commencing constructions	If workers of the special principal employer and related contract workers work at the same location
Notification on representative of joint businesses	Nishinoda Labour Standards Inspection Office	When commencing constructions	When establishing joint businesses
Act on Labour Safety and Health and orders/regulations for enforcement of the act			
Report on appointment of general safety and health administrator, safety administrator, health administrator, and corporate physician	Nishinoda Labour Standards Inspection Office	When commencing constructions	Business locations at which a prespecified number or more workers work
Accident report	Nishinoda Labour Standards Inspection Office	As needed during constructions	When accidents occur
Report on workers death and injuries	Nishinoda Labour Standards Inspection Office	As needed during constructions	When occupational hazards occur
Notification on instalment of cranes	Nishinoda Labour Standards Inspection Office	As needed during constructions	When installing cranes of 3 tonnes or more (1 tonne or more for stacker methods) in lifting load
Report on instalment of derricks	Nishinoda Labour Standards Inspection Office	As needed during constructions	When installing derricks of 0.5 tonnes or more and less than 2 tonnes in lifting load
Report on instalment of elevators and simple lifts	Nishinoda Labour Standards Inspection Office	As needed during constructions	When installing elevators or simple lifts of 0.25 tonnes or more and less than 1 tonne in loading capacity
Notification on instalment of construction lifts	Nishinoda Labour Standards Inspection Office	As needed during constructions	When installing construction lifts of 0.25 tonnes or more in loading capacity and 18 m or more in guide rail height

Report on results of periodic health examinations	Nishinoda Labour Standards Inspection Office	As needed during constructions	Business operators using 50 or more workers at all times
Act on National Tax Collection and orders/regulations for enforcement of the act			
Labour insurance: notification on establishment of insurance relations	Industrial accident insurance: Umeda Public Employment Security Office Employment insurance: Nishinoda Labour Standards Inspection Office	Within 10 days from the day of establishing insurance relations	-
Labour insurance: application form on estimated insurance premium and payment statements	Industrial accident insurance: Umeda Public Employment Security Office Employment insurance: Nishinoda Labour Standards Inspection Office	Within 50 days from the day of establishing insurance relations	-
Labour insurance: permit application form for subcontractors serving as business operators	Nishinoda Labour Standards Inspection Office	Within 10 days from the day of establishing insurance relations	When deeming subcontract projects as independent constructions and establishing insurance relations
Workman s compensation insurance: notification on appointment of agents	Nishinoda Labour Standards Inspection Office	Promptly each time a representative is appointed	When having agents process administrative work for labour insurance
Soil Contamination Countermeasures Act and orders/regulations for enforcement of the act, Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to soil)			
Notification on change in ground characteristics within districts where change in ground characteristics is required to be reported	Submitted by the Organiser	-	(Submitted by the Organiser)

Report on history of use of 3000 m^2 or larger grounds that are altered in terms of characteristics	Submitted by the Organiser	-	(Submitted by the Organiser)
Notification on shipping out contaminated soil	Environmental Management Department, Environmental Management Division, Environment Bureau, City of Osaka	By 14 days prior to the day of commencement	When shipping out soil from districts requiring measures
Act on Special Measures Concerning Conservation of the Seto Inland Sea			
Application form for permit on installing (changing) special facilities	Facility Management Department, Sewerage Division, Public Works Bureau, City of Osaka	By the time of instalment	Business sites that emits maximum water volume of 50 m^3 or more per day to public water areas
Act on Noise Regulation and orders/regulations for enforcement of the act, Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to noise) **Act on Vibration Regulation and orders/regulations for enforcement of the act, Osaka Prefectural Ordinance on Maintenance of Living Conditions (provisions relating to vibration)**			
Notification on performance of special construction work	Seibu Environment Conservation Group, Environmental Management Department, Environmental Management Division, Environment Bureau, City of Osaka	By 7 days prior to commencing construction work	When performing special construction work that uses construction machines such as pile drivers or backhoes
Act on Air Pollution and orders/regulations for enforcement of the act			
Notification on performance of construction work that emits designated mineral dust (Result report of preliminary survey regarding asbestos)	Seibu Environment Conservation Group, Environmental Management Department, Environmental Management Division, Environment Bureau, City of Osaka	Before starting construction	Demolition of structures that are 80 m^2 or more in floor area Repairs that are 1 million yen or more in contract fees
Construction Material Recycling Act and orders/regulations for enforcement of the act			

Notification pursuant to the Act on Construction Material Recycling	Building Verification Department, Building Guidance Division, Planning and Coordination Bureau, City of Osaka	By 7 days prior to commencing construction work	Demolition: 80 m^2 or more in floor area Construction: 500 m^2 or more in floor area
Act on Waste Management and Public Cleansing and orders/regulations for enforcement of the act			
Report on the status of delivery of management slips for industrial waste	I Industrial Waste Regulation Group, Environmental Management Department, Environmental Management Division, Environment Bureau, City of Osaka	Earliest June 30 after the end of the previous fiscal year	Report once a year of the summary of the results for the previous fiscal year (April to March)
Industrial waste treatment plan	Same as above	June 30 in the fiscal year for which the plan should be notified	Entity that should make a notification is the business operator whose total amount of industrial waste generated from each work place (site) in Osaka city in the previous fiscal year is 1,000 tons or more.
Implementation status report on Industrial waste treatment plan	Same as above	June 30 of the next fiscal year after the fiscal year for which the plan was submitted.	Entity that should make a notification is the business operator who submitted the "Industrial Waste Treatment Plan" of the fiscal year.
Consultation with Osaka Metro on contiguous construction			
Consultation on contiguous railway construction of the North Port Techno Port Line	Planning Division, Osaka Ports and Harbours Bureau	when needed	In case within 30m from the position of the underground shield of the North Port Techno Port Line
Act on Road and orders/regulations for enforcement of the act			

Application for permit to traffic of special vehicles	Coordination Department, Roads, Streets, and Rivers Division, Public Works Bureau, City of Osaka (in case of traffic on a road under the Act on Road, traffic both on a road under the Act on Road Law and on a port road in once) Facility Management Division, Planning and Maintenance Department, Osaka Ports and Harbours Bureau (in case of traffic on port roads only)	By 8 weeks before the traffic start date (*)	When traveling on the road with a special vehicle (*) If it is less than 8 weeks before the traffic start date, please contact the submission destination.

The Official Participants can send inquiries concerning the content of this Guideline or uncertainties concerning procedures to the Organiser using the Queries function in the online portal for the Official Participants.
If you have any trouble using the online portal for the Official Participants, please contact us by email to participant@expo2025.or.jp (or otherwise).

Japan Association for the 2025 World Exposition

The 1st
Architectural Guidance for Type A Pavilions

June 23rd, 2021
Japan Association for the 2025 World Exposition

Opening Remarks

HIROOKA Atsuko
Executive Liaison Director
International Relations Bureau

Agenda

Opening Remarks

I. Understanding the venue design concept and pavilion planning

II. Overview of construction timeline from now until the opening of EXPO 2025 for Type A Pavilions

III. Terms & conditions for pavilion construction
Type A Design Guidelines（Environmental assessment of the Expo）

IV. How to access and use the Participant Portal

V. Question and Answer

Closing Remarks

Understanding the venue design concept and pavilion planning

FUJIMOTO Sou
Architect
Expo Site Design Producer


KEIRIN

“ Diversity ”

+

“ Unity ”

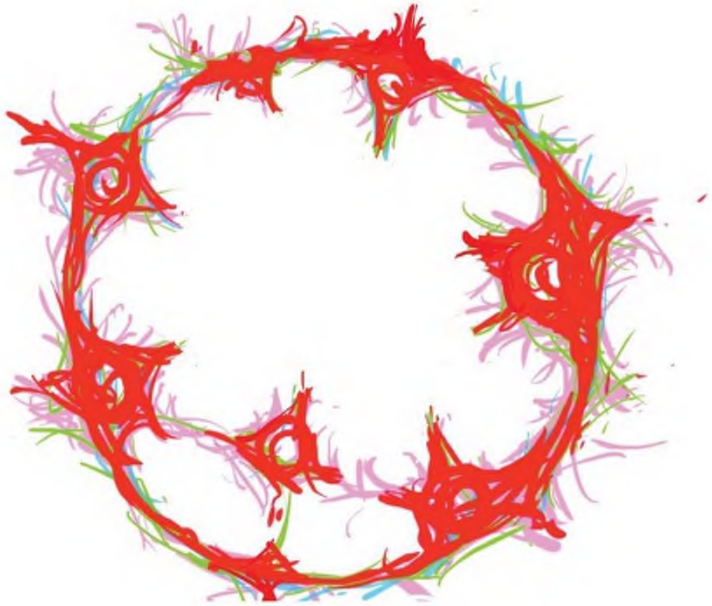
Unity in Diversity

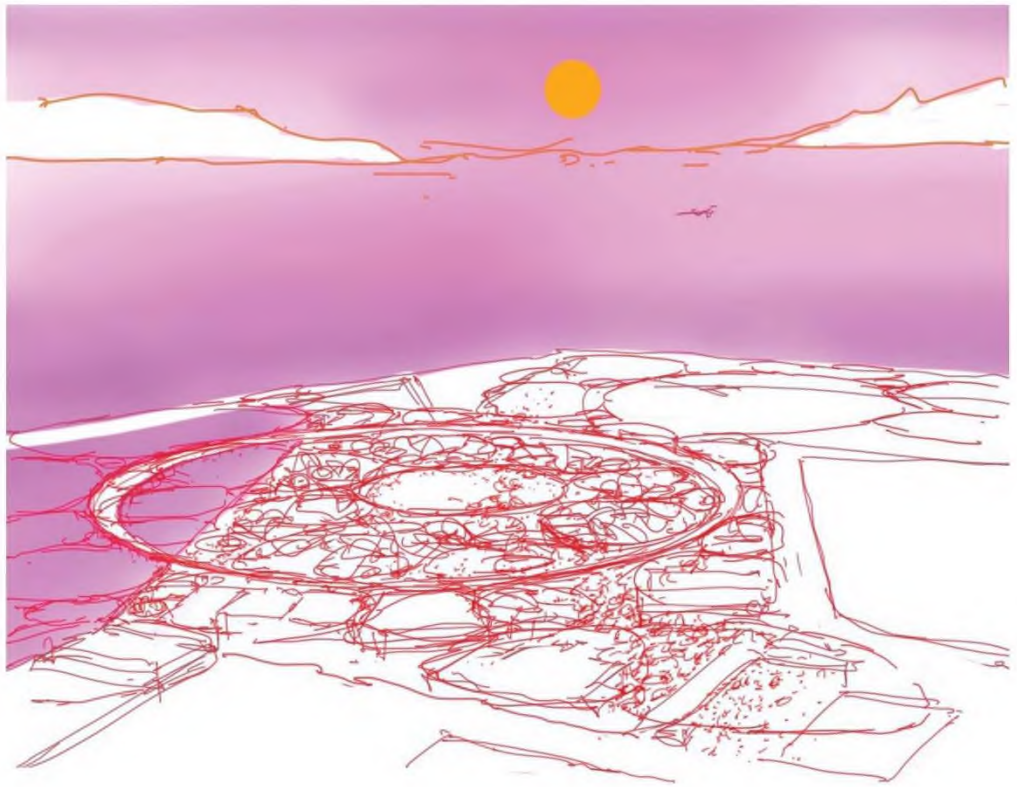
One world shared by innumerable diverse being


KEIRIN


EXPO
2025
Bureau
International
des Expositions

Grand Roof (Ring)

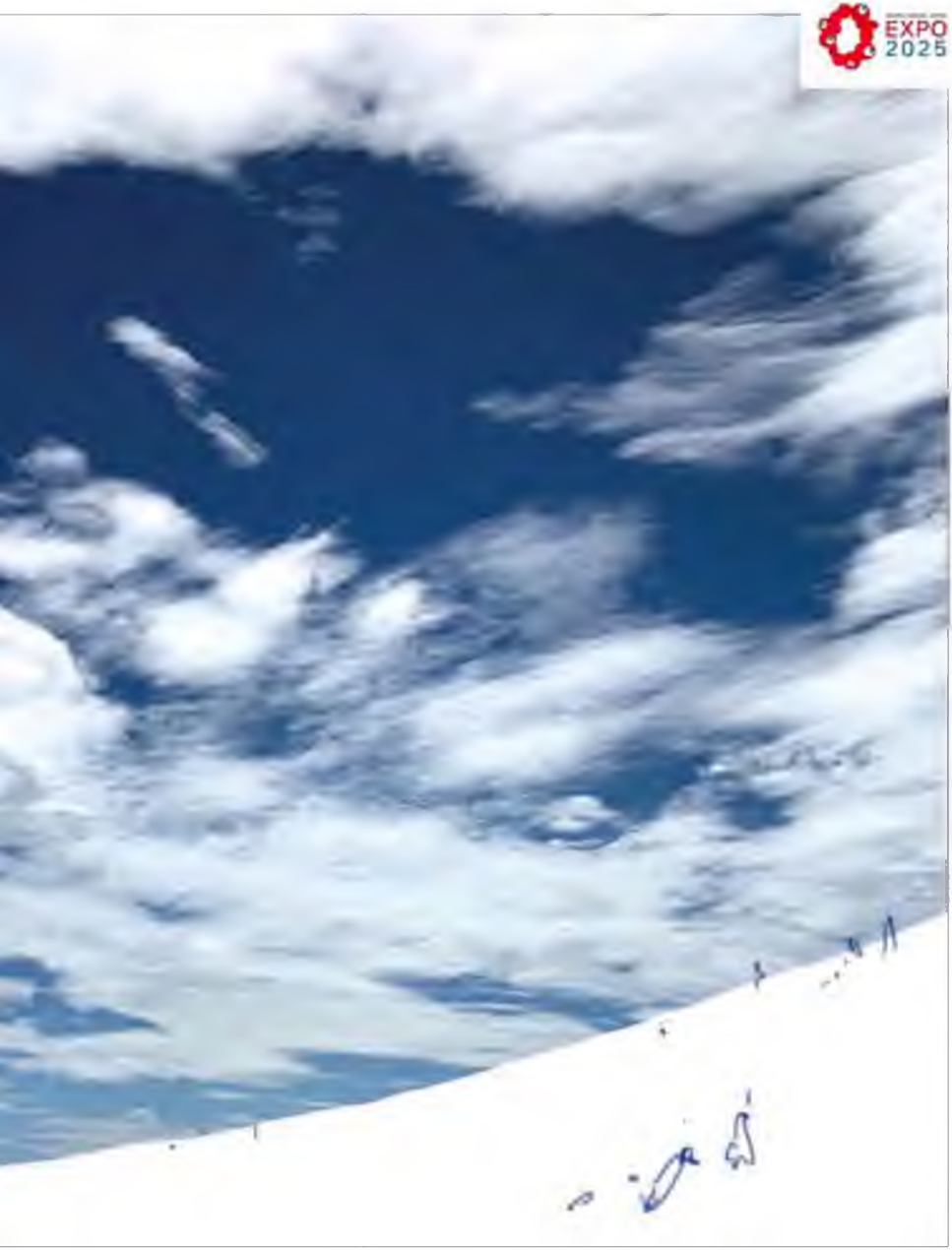




Above the main line of flow (Main Street) will be a grand roof (ring).
This grand roof (ring) will not only protect visitors from rain and sunlight but also navigate them.

KEIRIN

KEIRIN



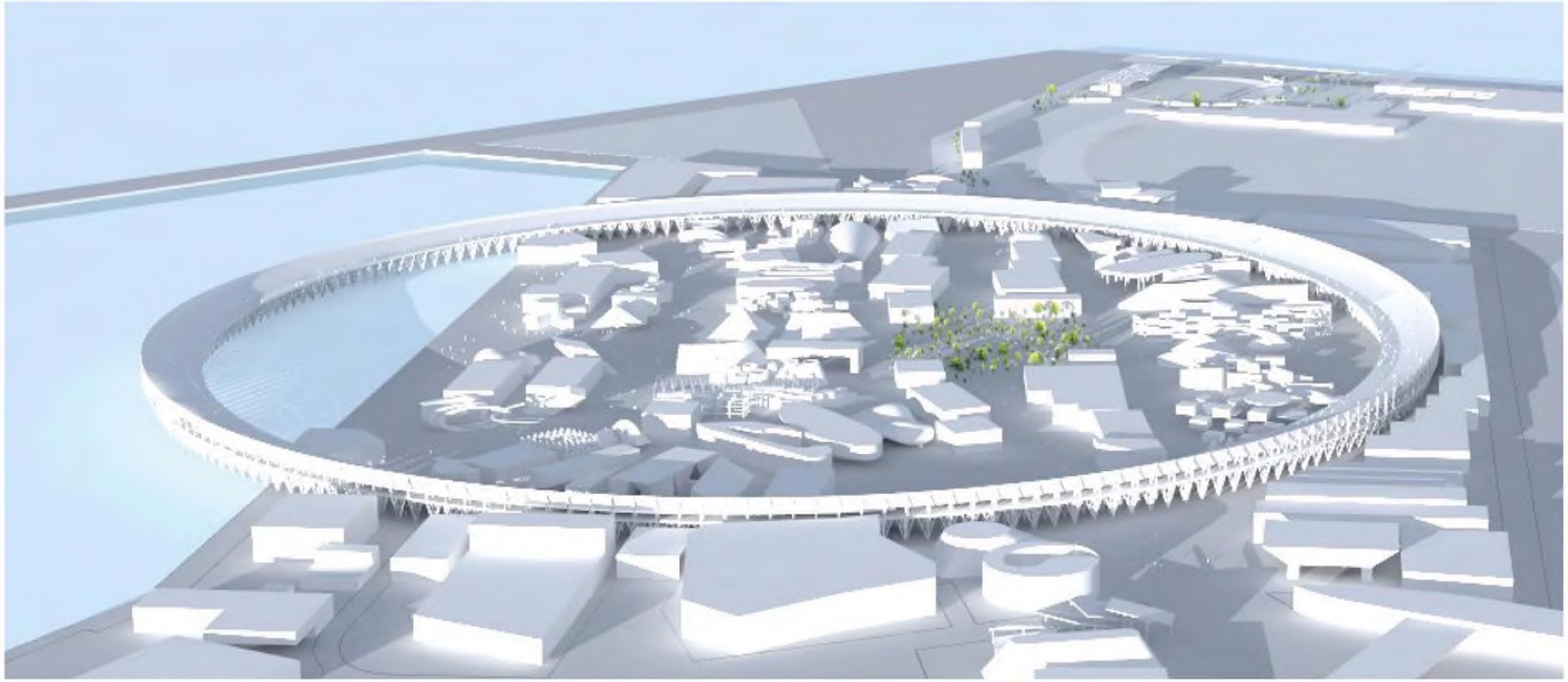
One Sky

Everyone around the world is looking up at the same sky.
The one sky connects all parts of the world.


KEIRIN

Expo of the sea, sky and earth

SDGs, Sustainable Expo



Considering the utilization of natural materials such as wood and recycling


KEIRIN


EXPO
2025
Bureau
International
des Expositions

KEIRIN

Overview of construction timeline from now until the opening of EXPO 2025 for Type A Pavilions

HIROOKA Atsuko
Executive Liaison Director
International Relations Bureau

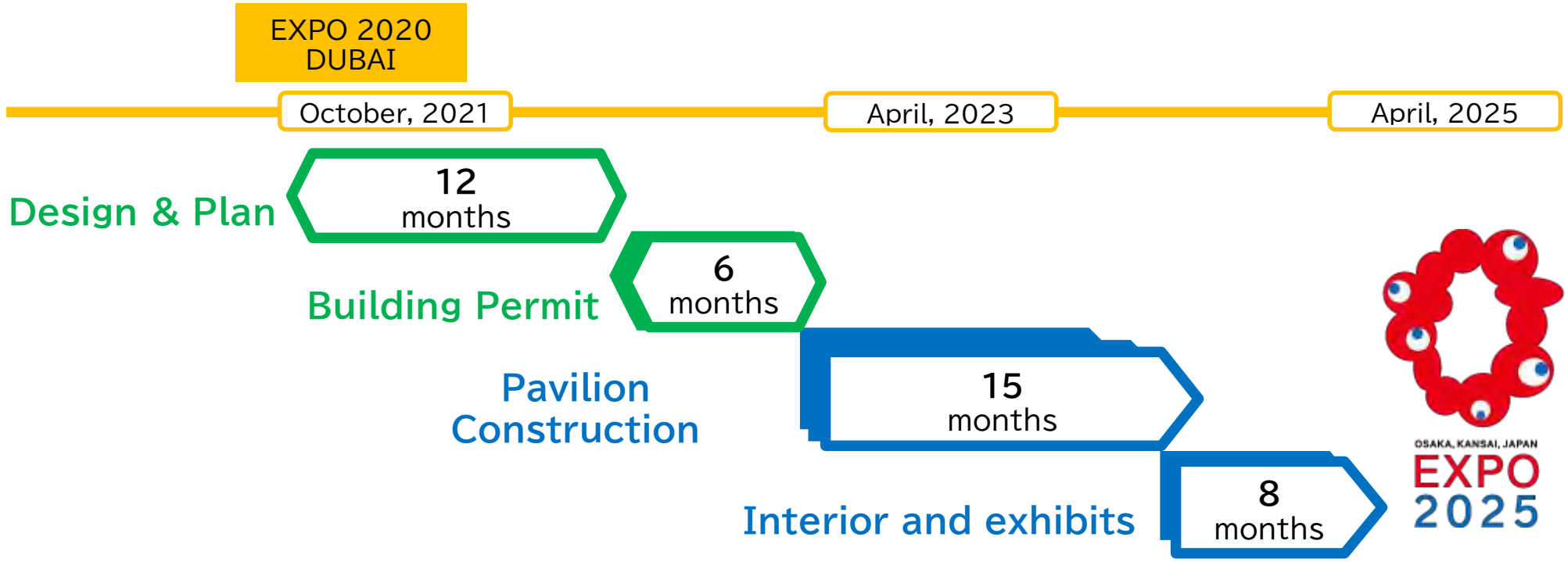
Layout of Type A Pavilions

*the layout is subject to change.

(as of December 2020)

Schedule for Type A Pavilions

Standard schedule for application, design plan, layout, construction and exhibition



Standard schedule: approx. 3.5 years
・Safe & efficient building management
・Handle limited plots and overcrowded construction

Terms & conditions for pavilion construction

KISHIMA Katsunori
Deputy Director
Site Development Bureau

Terms & conditions for pavilion construction

・Japanese national laws regarding construction

- **Building Standards Act (About Buildings)**
  ⇒Establishes the minimum necessary standards for building sites, structure, equipment, and use

- **Architect Act (About Architects)**
  ⇒Establishes the qualifications for designers that design buildings and manage construction
  Only architects are allowed to design/manage construction of certain buildings.

- **Construction Business Act**
  ⇒ Established to ensure proper construction work, protection of the ordering party, etc.
  Contract with a construction company licensed under the Construction Business Act

- **Other related regulations**
  ⇒City Planning Act, Fire Service Act, Accessibility Improvement Act, various business laws, construction laws, etc.

Terms & conditions for pavilion construction

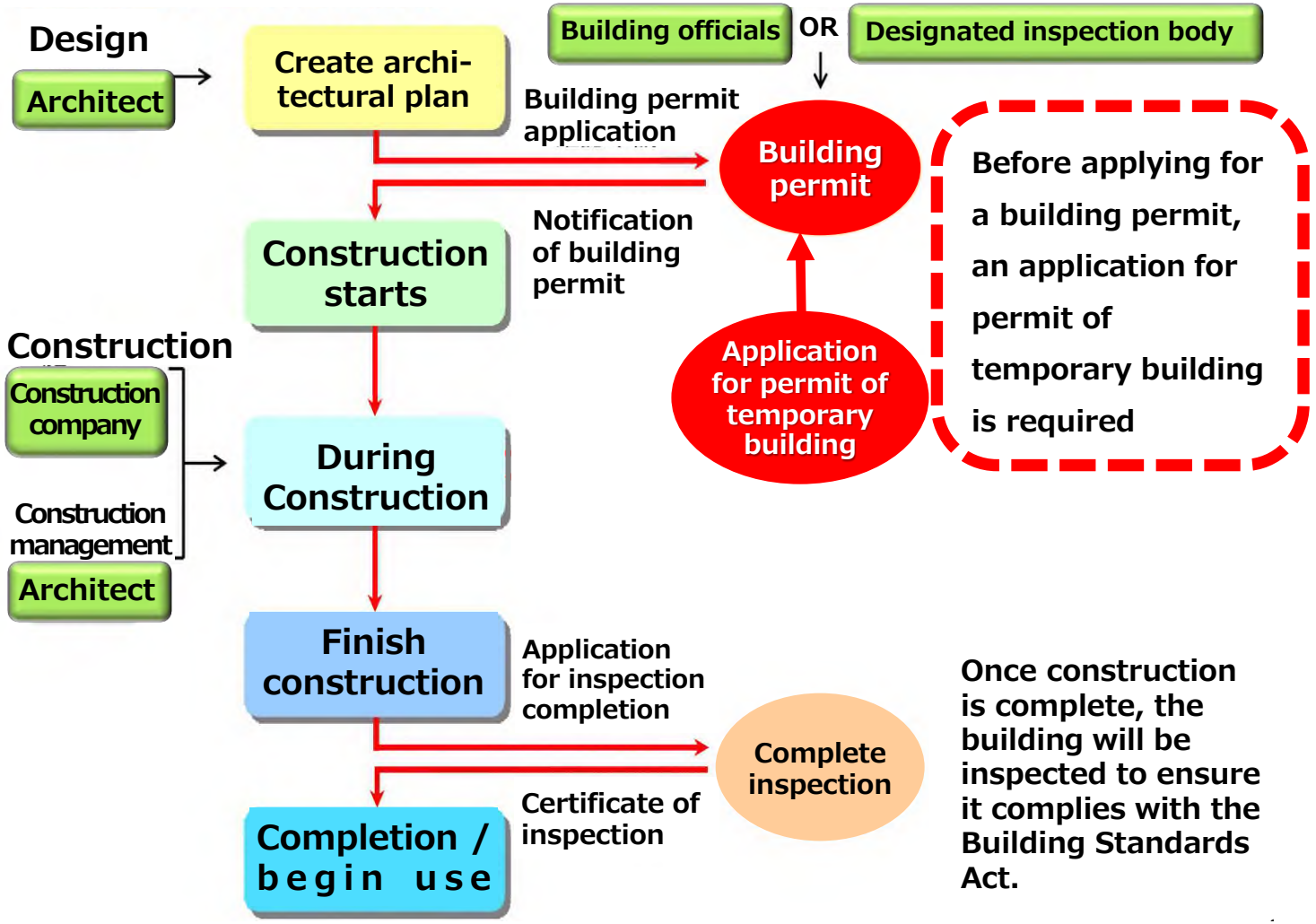
- **Building permit structure**
  (Based on the Building Standards Act)

➢ **Confirmation application**
Check if the building plan complies with the law
<Receive a confirmation certificate>

➢ **Temporary permit application**
Part of the provisions of the Building Standards Act has been relaxed for temporarily installed buildings.

Procedure materials are available in Japanese only

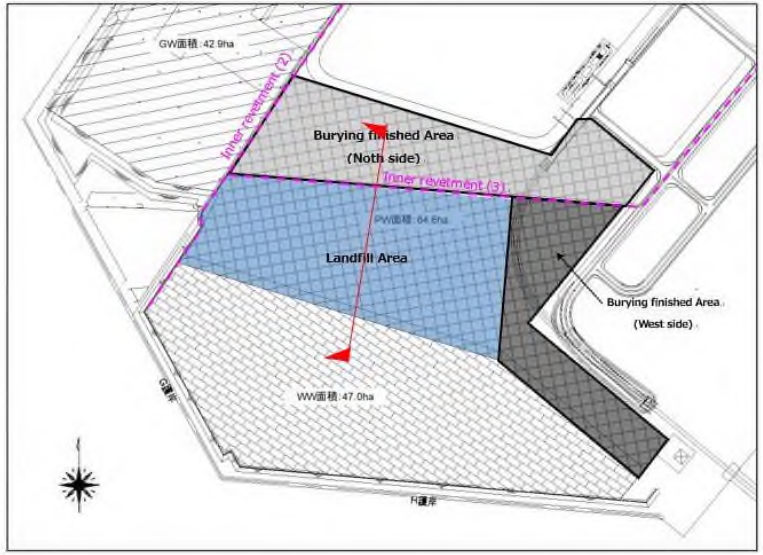
Flow Chart of Construction Procedures



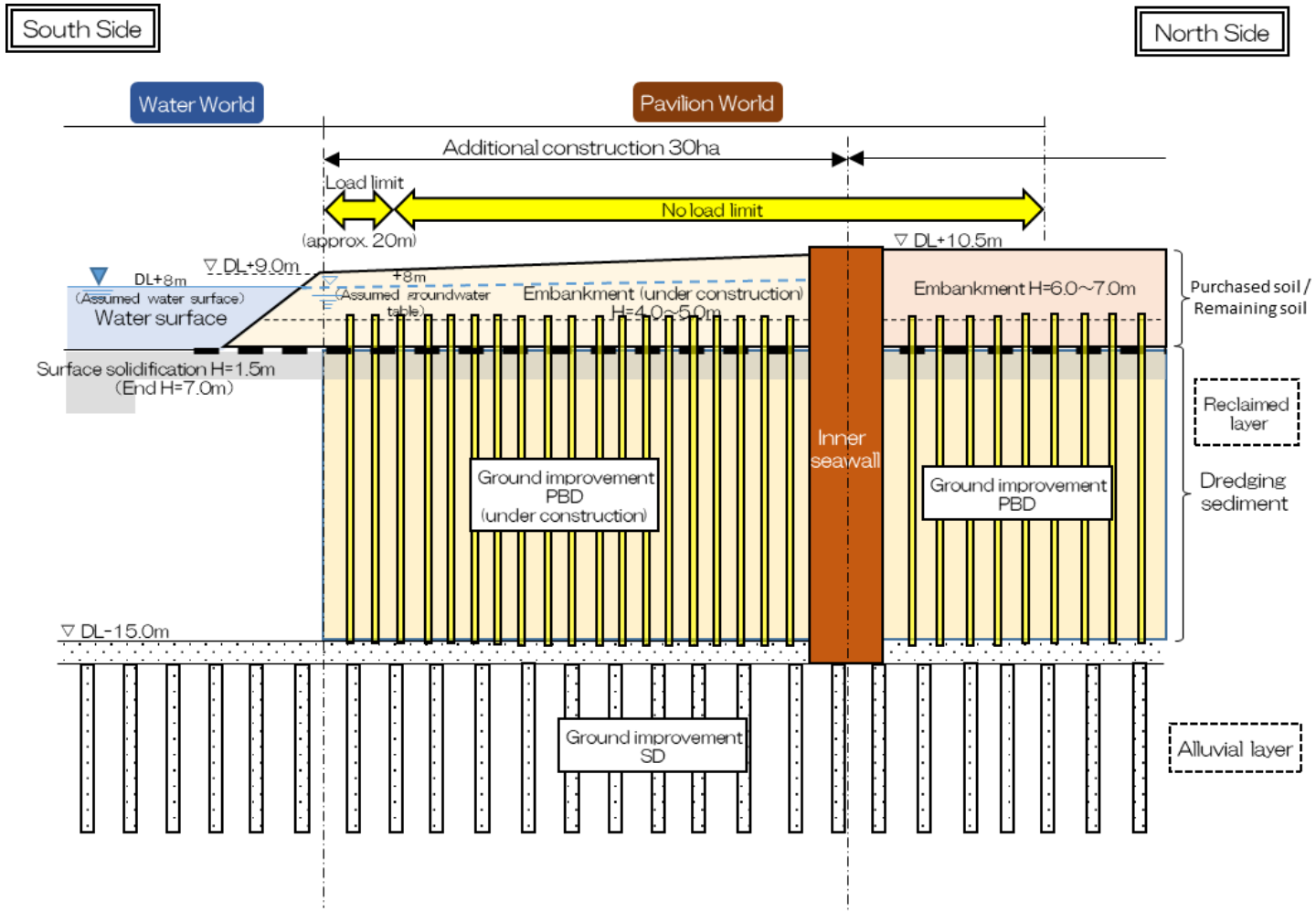
Terms & conditions for pavilion construction

・About Yumeshima's foundation

(Boring data is available on the Osaka Port and Harbor Bureaus, and Organizer websites)



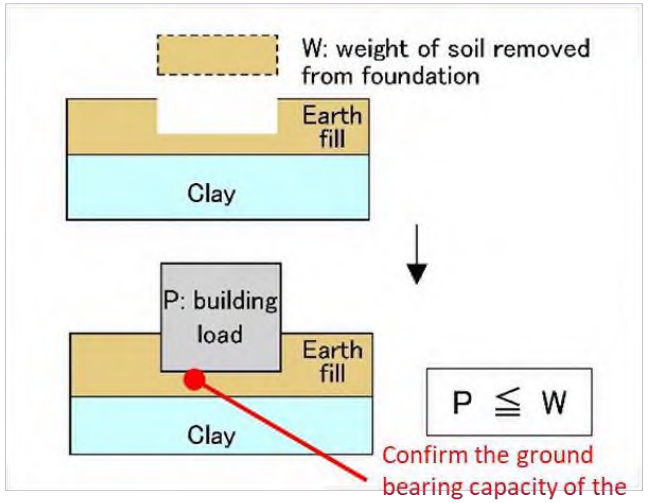
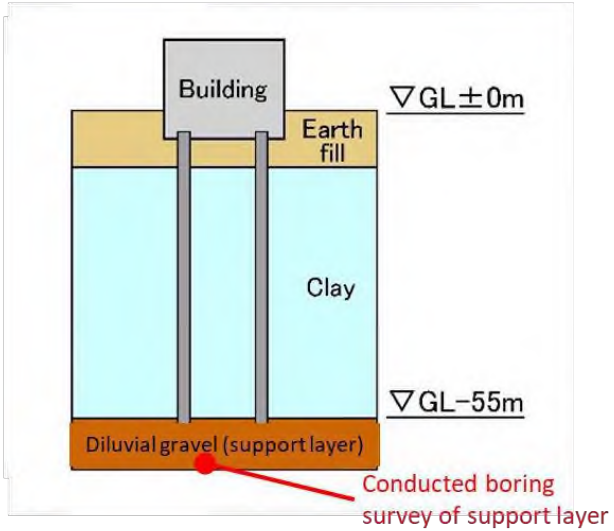
The site is a newly reclaimed area, and consolidation settlement will continue to occur at the reclaimed clay layer during the Expo's construction period (April 2023 - April 2025). It is necessary to consider this when designing your facility.



Terms & conditions for pavilion construction

・Preventive Measure against the Settlement of Buildings

(For Your Reference)

Basic Format	Floating Foundation (Direct Foundation)	Pile Foundation
Diagram		
Overview	By setting “the weight of the building (P) ≦ the weight of the soil removed from the foundation (W),” the occurrence of consolidation settlement and uneven settlement due to building construction can be prevented.	By using a pile foundation for the support layer existing near GL-55m, the occurrence of consolidation settlement and uneven settlement will be prevented. * Pile removed after the end of the Expo
Target Facility	Average building weight of about 4tf / ㎡ * (Equivalent to an S-structured one-story building with two floors) *When designed with a foundation excavation depth of 2.5 m	Buildings with an average weight of over 4tf / ㎡ (Equivalent to 3 stories or more of S structure)

Type A Design Guidelines

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About the Type A Design Guidelines

Purpose of the guidelines

- Setting out a clear design policy.
- Ensuring the consistency of pavilions and functionality of the venue as a whole.
- Consideration for pavilion sustainability.

・Building coverage ratio/setbacks

The building coverage ratio must be within 70%.
Setback rules are described in the guidelines.

・Participating in the Communication and Coordination Council

Construction work may be congested as there is limited space on the venue.
Participants must participate in the council in order to carry out safe and efficient construction management.

Applying the Built Environment Comprehensive Assessment System

- Environmental consideration in the pavilion is required to achieve the SDGs.
- From the design stage, it is important to evaluate the entire life cycle of global warming, energy consumption, 3Rs (Reduce, Reuse, Recycle), etc.

<Applying the Built Environment Comprehensive Assessment System>

- EXPO2025 will use "CASBEE for Temporary Construction," which can evaluate buildings for short-term use at the design stage.

Download for free from the IBEC website (Japanese only)
(http://www.ibec.or.jp/CASBEE/TC/TC.htm#download)

- Participants should obtain A rank or higher (A rank or S rank) in the overall evaluation rank.

<CASBEE Rank>

Ranks	Valuation	Indication
S	Excellent	★★★★★
A	Very Good	★★★★
B^+	Good	★★★
B^-	Fairy Poor	★★
C	Poor	★

Rank required by Expo 2025

Overview of CASBEE

・Developed in 2001 in Japan (led by the Ministry of Land, Infrastructure, Transport and Tourism). Most popular in Japan, as many local governments require notification

・ A system that comprehensively evaluates the environmental performance of a building, including the reduction of the environmental load (Lord Reduction) and the improvement of the environmental quality of the building itself (Quality).

<CASBEE Assessment Items>

<Environmental quality of buildings>

Q1 Indoor Environment
1. Sound Environment
2. Thermal Comfort
3. Lighting & Illumination
4. Air Quality
Q2 Quality of Service
1. Service Ability
2. Durability & Reliability
3. Flexibility & Adaptability
Q3 Outdoor Environment (On-site)
1. Preservation & Creation of Biotope
2. Townscape & Landscape
3. Local Characteristics & Outdoor Amenity

<Reduction of environmental load of buildings>

LR1 Energy
1. Control of Heat Load on the Outer Surface of Buildings
2. Natural Energy Utilization
3. Efficiency in Building Service System
4. Efficient Operation
LR2 Resources & Materials
1. Water Resources
2. Reducing Use of Non-renewable Resources
3. Avoiding the Use of Materials with Pollutant Content
LR3 Off-site Environment
1. Consideration of Global Warming
2. Consideration of Local Environment
3. Consideration of Surrounding Environment

Overview: CASBEE for Temporary Construction

- Developed to evaluate buildings for short-term use at the 2005 World Exposition, Aichi, Japan.
- Based on CASBEE® for Buildings (New Construction), with some changes such as the addition/deletion of assessment items and change in the coefficient of weight.
- Emphasis is placed on recycling performance and waste control measures.

◆ Evaluations can be done on your own; a third-party's certification is not necessary.

About the Type A Design Guidelines

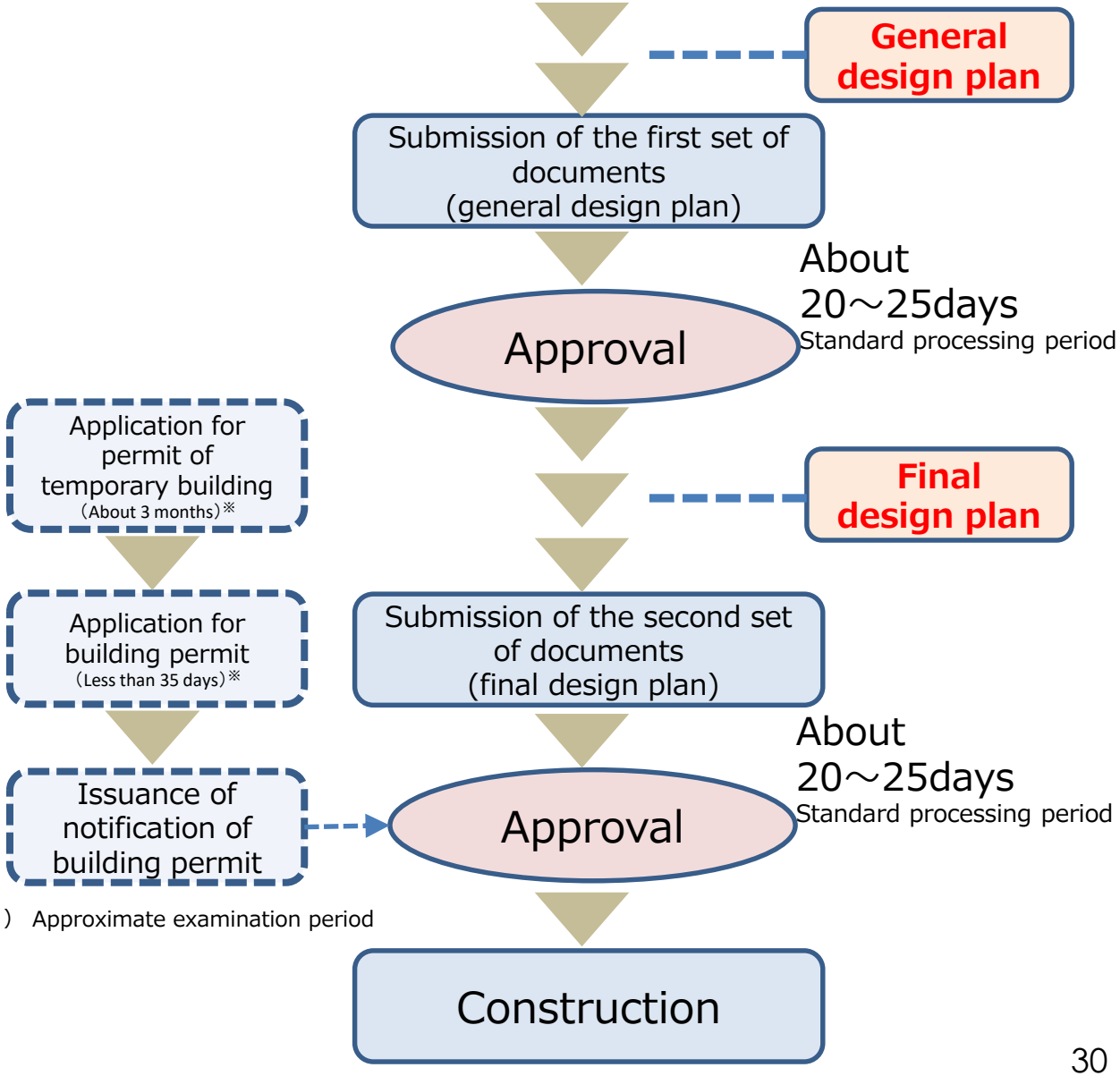
・Design procedures (based on the guidelines)

- First set of documents to be submitted:
  Application for approval of general design plan
  After approval, proceed to the next phase

- Second set of documents to be submitted:
  Application for approval of the final design plan
  After approval, construction may begin
  <Must receive a notification of building permit>

*Drawing data must be submitted as CAD and BIM data

***All Documents must be in Japanese**



※（ ） Approximate examination period

Role of the Participant Portal

KIKUCHI Junichi
Liaison Director
International Relations Bureau

Registering the Participant Portal

Opening of Participant Portal and request of registration

1. Participant Portal and its purpose
The Japan Association for the 2025 World Exposition (Organizer) has developed a Participant Portal that centralizes online procedures in order to facilitate the exhibition procedures of official participants. The portal is already available from April 2, 2021.
Official participants can browse and download the posted rules, guidelines, etc. on the Participant Portal, and submit various application forms to the Organizer by the Participant Portal.
In addition, official participants can directly contact the Organizer with questions about rules and inquiries regarding application procedures through the Participant Portal.

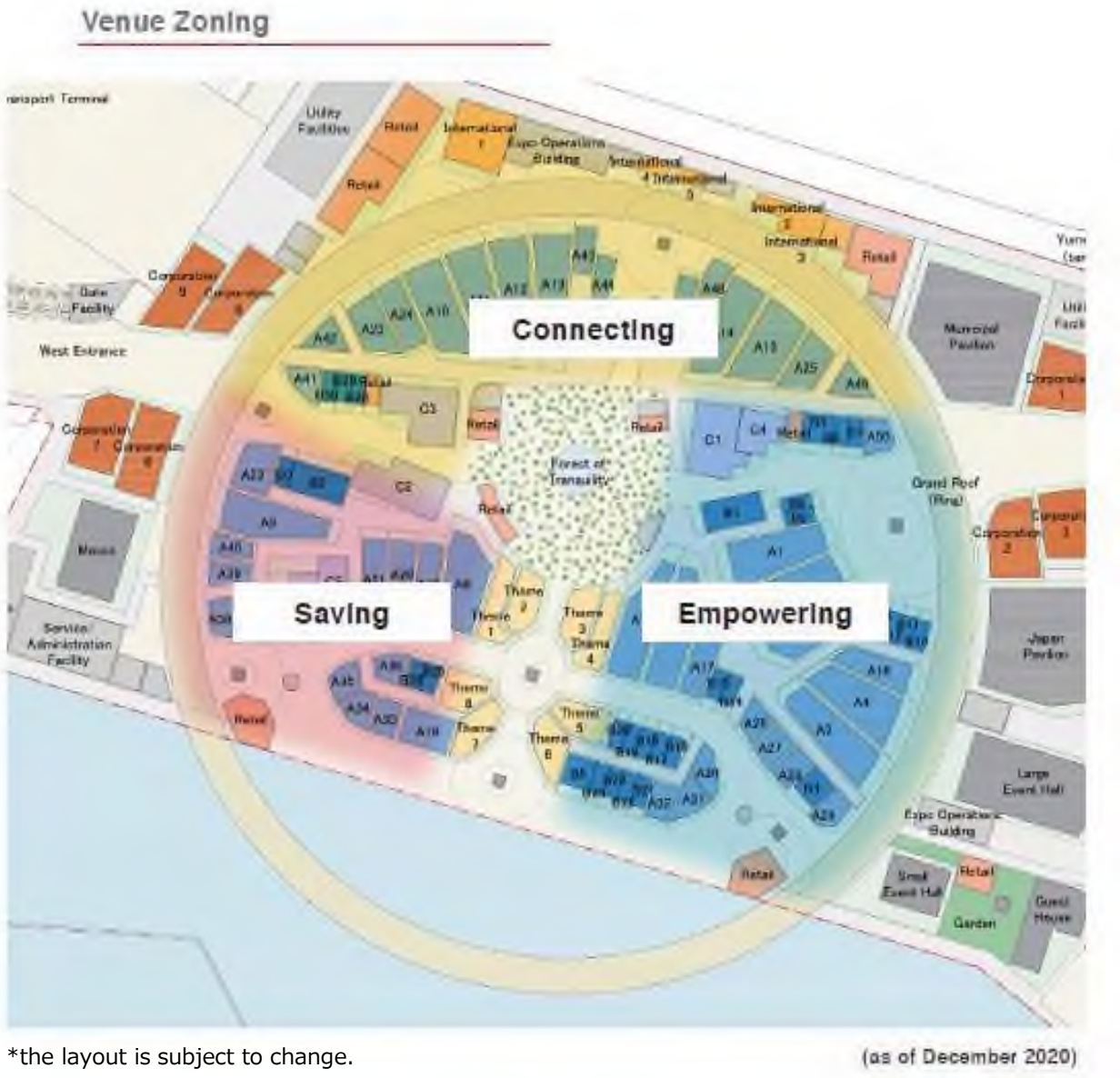
2. Registration to the Participant Portal
The Participant Portal can only be accessed by users who are considered official participants. User registration is required to start using it. In 2021, up to 3 users in each country (or international organization) can be registered as users. It is assumed that the person in charge of the Expo will be registered to perform the exhibition procedure by looking at various rules.
The following URL and QR code for registration are attached to the back cover of the Expo 2025 Overview, which was distributed as an attachment to the invitation letter for participation.

URL : https://www.expo2025.or.jp/participantportal/

QR code:

3. Important documents posted and to be posted on the Participant Portal
In addition to the General Rules, and Special Rules No. 1 and No. 2 which have been presented with the final Registration Dossier, the ”Theme Guide” for submitting the ”Theme Statement,” and the ”Participant Handbook” for submitting the “Application for the Allocation of Exhibition Space,” have been posted at the inauguration of the Participant Portal.
The schedule for issuing other rules will be described in the “Participant Handbook.”

Zoning by Sub-Theme



*the layout is subject to change.

Question & Answer

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Closing Remarks

ICHINOKI Manatsu
Vice Secretary General

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