

Know. Think. Act.



Suita City Disaster Preparedness Guide



Suita City  
Disaster  
Preparedness Guide

Disaster  
prevention  
maps inside

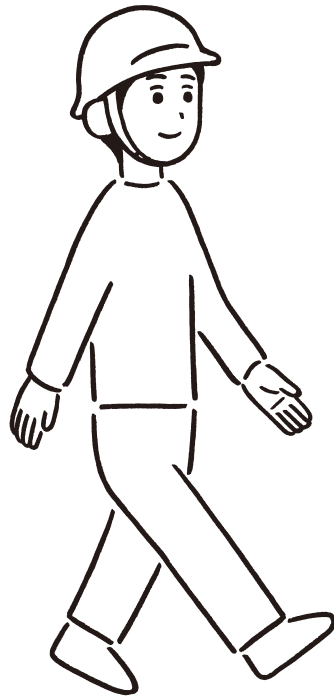
Know



Think



Act



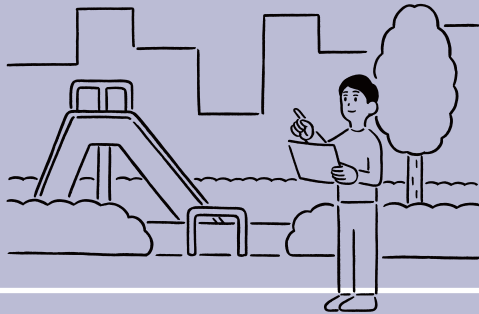
It is important toward getting through a natural disaster to know, think and act. Thinking about what to do if a calamity were to strike BEFORE it occurs should help you to quickly judge the situation, make decisions and take the appropriate action. Disaster preparedness in Suita City begins with each and every one of us knowing what to do, thinking about one's situation and actually taking action in a disaster.

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## What You Need to Know About Disaster Preparedness

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► 5



- 5 **PICK UP**  
What You Need to Know About Disaster Preparedness
- 13 **1** When natural disasters strike
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- 45 **3** Life after a natural disaster

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## Disaster Prevention Maps

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► 57



- 57 **Flood Hazard Map**
- 81 **Disaster Prevention Map**
- 105 **Storm Surge Hazard Map**

## PICK UP

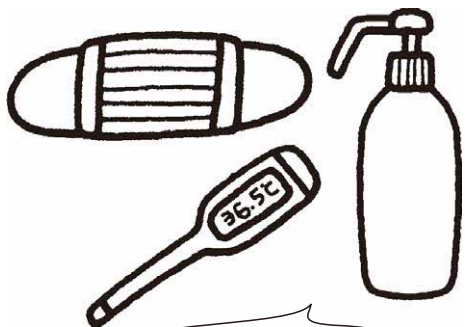
# Good sanitary practices for refuge shelters



You live with other people at a refuge shelter, so here are some wise sanitary practices.



Open two doors or windows so that air can flow.



Masks, thermometers and sanitizers can run out, so bring your own if you need to evacuate.

In many cases, it's OK to go home to get supplies after once evacuating to a shelter.

Sanitize hands before and after using shared facilities and supplies.

Periodically sanitize shared facilities and supplies.

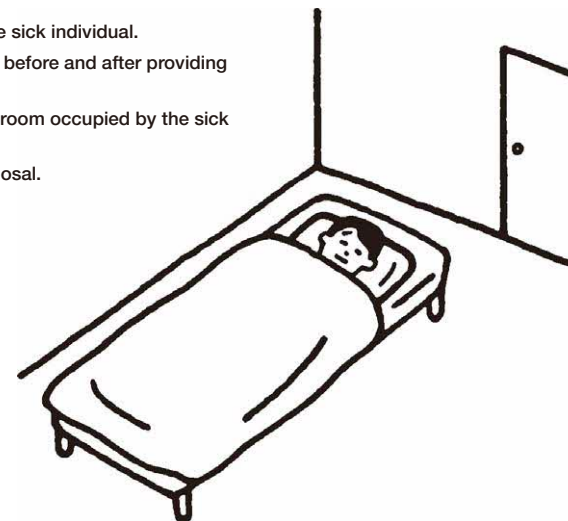


## If someone in your family is sick ...

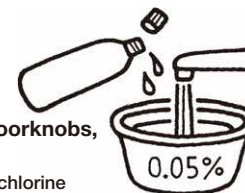
Follow the instructions of your doctor.

If caring for someone sick at home or evacuating a sick person to a shelter

- Isolate the sick individual. Eat and sleep in separate rooms.
- Restrict who cares for the sick individual.
- Wash and sanitize hands before and after providing care.
- Periodically ventilate the room occupied by the sick individual.
- Seal garbage before disposal.

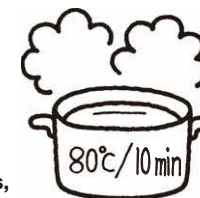


## If you run out of sanitizer



For doorknobs, etc.

Dilute chlorine bleach with water to a concentration of 0.05%.



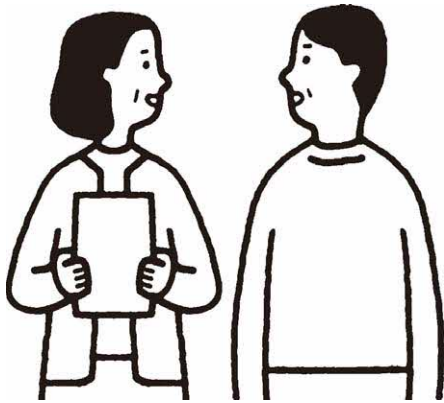
For dishes, utensils, etc.

Soak in hot (80°C) water for 10 min.



**PICK UP**

**Refuge shelters tend to the needs of women.**



Both men and women are involved in operating a refuge shelter.



Men and women do not play stereotypical roles.

Regardless of gender or age, people at refuge shelters go to work and school.



Strong people are needed to help carry heavy pots.



Space is provided where women can hang laundry, change clothes, breast-feed, etc.



Women's toilets are provided in ample number and located in well-lit places.

Security patrols are conducted at refuge shelters.

Counseling is provided at refuge shelters.

Feminine needs are distributed by women.

+α



**Disaster preparedness checklist for women**

- Feminine napkins
- Pantyliners
- Sanitary panties
- Opaque trash bags
- Basic cosmetics (products you are used to)
- Hand cream, lip cream
- Emergency buzzer
- Hand mirror
- Large stole
- Hair bands, pins, ties
- Alcohol-free handy wipes

## PICK UP

# Preparing your kids for disaster



### Practice makes perfect

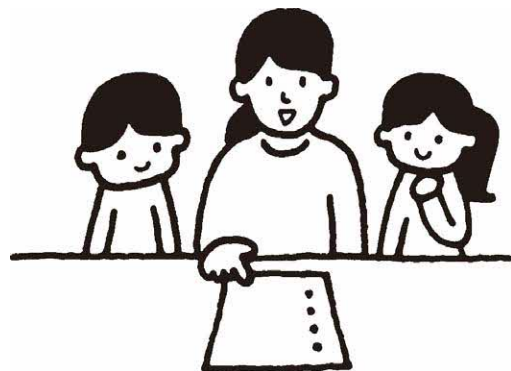
To ready your children for potential disasters

Practice using payphones and Japanese toilets.

Take different routes home from school.



In a disaster, the usual route home may be impassible.



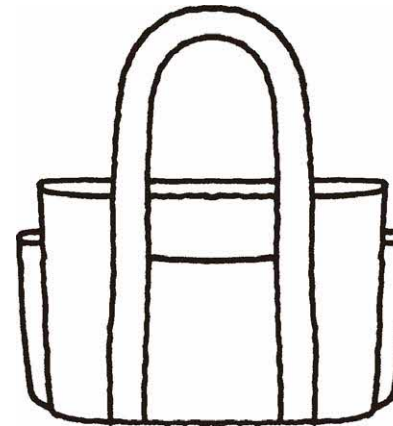
### Plan ahead

Decide where to meet if a disaster occurs and you cannot immediately go pick up your kids.



### If evacuating

Do not bring strollers. Use a baby carrier and carry infants in front of you.



Mom's usual diaper bag works great for carrying your emergency supplies.

### Other emergency items to consider

Sanitary sheets

Whistle

Masks (For adults/kids)

Bottled water

Baby formula  
(More than usual)

Toys

Snacks (More than usual) etc.

## PICK UP

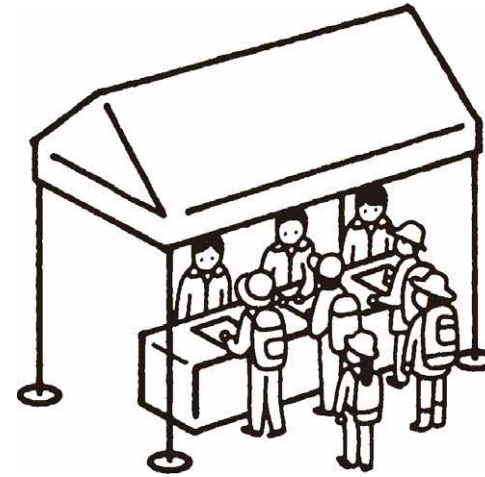
# Volunteering to help in a disaster



There is need for all sorts of help in a disaster: removing debris, cleaning, cooking, distributing supplies, etc.



Clothing and items appropriate for the season and disaster



Sign up to volunteer at a volunteer center set up in the disaster-stricken area.

\* You might have to register online first.



### Precautions for volunteers

#### Gather information

Check the social media and website of the Japan National Council of Social Welfare (Shakyo) to get the latest updates, e.g., whether volunteers are needed or not, etc.

⚠ Do not call the local government of the stricken area.

#### Sign up

Get volunteer insurance from the local Shakyo office in your area.

#### Get ready to go

Get plenty of sleep and carefully manage your health.

#### While on the road

Arrange for food, lodging at the site and roundtrip transportation yourself.

#### While at the site

Always be thoughtful of the victims.

At the end of every day, report on your day's activities and share stories and information with other volunteers to prevent stress from building up.

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# 1 When natural disasters strike

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Quick action on your part can mean the difference between life and death.

Knowing ahead of time what to do in the event of a natural disaster can save your life and the lives of your loved ones.

15 What to do in a natural disaster ①  
**First, cover your head**

17 What to do in a natural disaster ②  
**Evacuate as dictated by your situation**

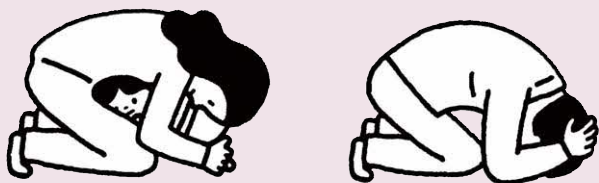
23 **Know the safe way to evacuate**





### What to do in a natural disaster ①

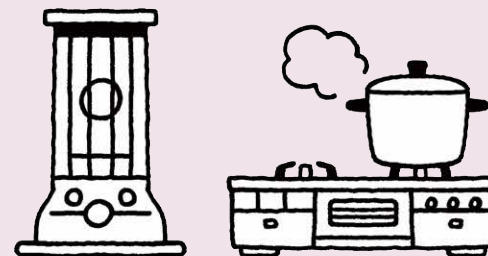
## First, cover your head.



Get on a knee if you can.



Get low to the ground, cover your head and hold tight. Flee to an open place.



As soon as the shaking stops, quickly turn off any sources of heat that are on.



\* Before evacuating, shut off the electricity at the breaker and gas at the primary supply valve.



Once the shaking has stopped, check the evacuation route.





## What to do in a natural disaster ②

# Evacuate as dictated by your situation.

### Earthquake



If your house is about to collapse or a big fire has broken out nearby, evacuate to a temporary evacuation site or an open place.

### Earthquake

At a station or on a train or bus



Watch out for falling objects. Calmly evacuate as instructed by announcements.

### Earthquake

### Flood



Get accurate information. Don't be fooled by rumors or hearsay.

[From a survey of Suita residents]

Where do you get your information in a natural disaster?



### Earthquake

Residential area



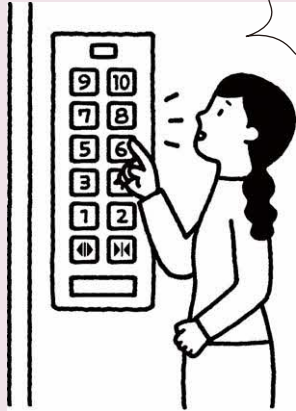
Stay away from cinder block and stone walls, and gate pillars. Watch out for falling roof tiles, etc.



### Earthquake

In an elevator

Press the buttons for all floors.

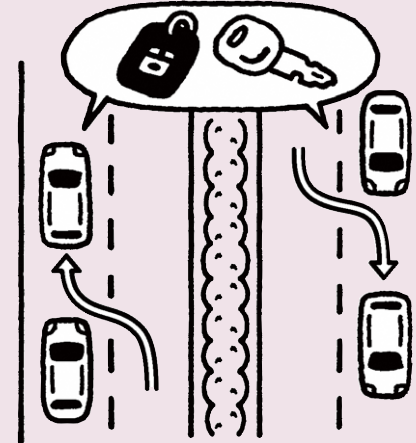


If stuck, call for help from the intercom and wait to be rescued.

### Earthquake

If driving

Stop on the left shoulder of the road. When the shaking stops, leave the key in the ignition and evacuate on foot.



### Earthquake

At a supermarket or convenience store

Cover your head and calmly evacuate.



### Earthquake

If out visiting somewhere

Remain in a safe place. Do not go anywhere without thinking.





**Earthquake Flood**



If there are children, elderly or handicapped persons in your household

Quickly prepare to evacuate to a refuge.

Familiarize yourself with public evacuation announcements.

**Earthquake Flood**



**Level 5 Alert Shelter in Place**

**“Danger! Seek safety now!”**

Issued when a disaster has already occurred or is imminent

If it is dangerous to be outside, remain indoors in a safer place.

〜 〈Evacuate before a Level 5 Alert is issued!〉 ∽

**Level 4 Alert Evacuation Order**

**“All people evacuate from dangerous areas”**

Issued when there is a high chance of a disaster

Check on neighbors to ensure everyone evacuates.

**Level 3 Alert Early Evacuation Advisory for Elderly, Etc.**

**“Evacuate elderly persons, etc. from dangerous areas”**

Issued when there is a chance of a disaster

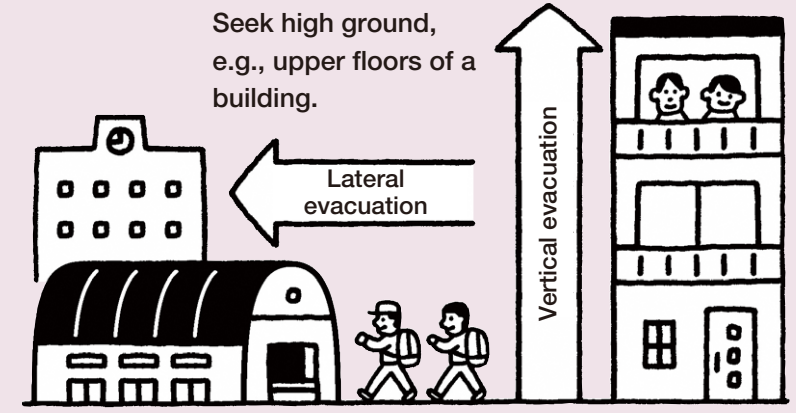
Evacuate persons who require time to evacuate now!

The above information is valid as of 12/2022.

**Flood**

If flooding is possible

Seek high ground, e.g., upper floors of a building.



**Flood**



If near a river

Avoid low-lying roads when evacuating.

**Tsunami/Flood Evacuation Building of Suita City**  
Tsunamis do not pose a direct threat to Suita, but flooding does. Therefore, the city designates Tsunami/Flood Evacuation Buildings for evacuating from tsunamis and other forms of flooding.  
→ For locations, see the Flood Hazard Map on page 57 and beyond.





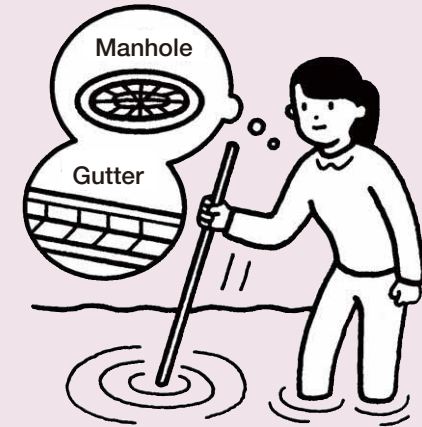
## Know the safe way to evacuate.

### Earthquake

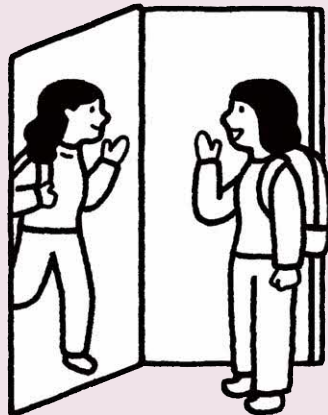


Do not evacuate by car. You risk getting stuck in traffic and blocking emergency vehicles.

### Flood



Walking through high water is dangerous. Use a pole to probe for open manholes and gutters.



### Earthquake

### Flood

Check on neighbors and evacuate.

### Flood

If water is 50 cm deep (knee high) or more, seek high ground and do not venture outdoors.



Fast flowing water is dangerous when only about 20 cm deep (ankle high).

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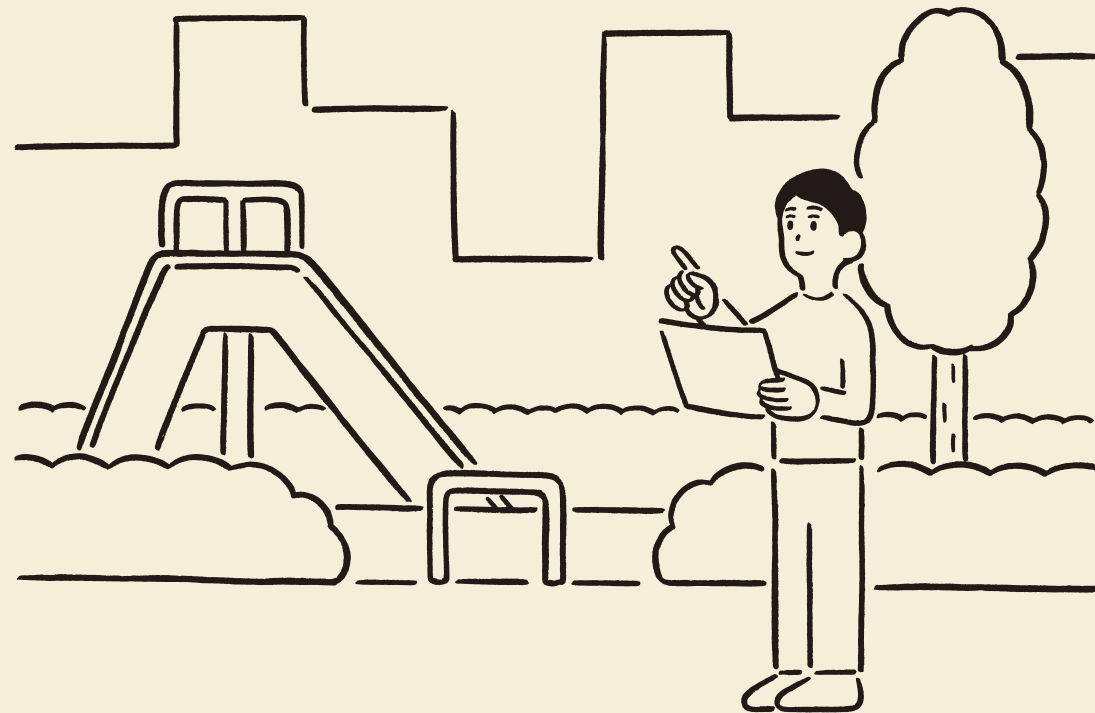
## 2 Knowing is the first step to being prepared

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What can happen in a natural disaster?

Knowing about disasters will guide you through calamity.

- 27 Be prepared!
- 33 Maintain reserves of food and water
- 35 Prepare sanitary needs for your family  
(Toilet frequency: 5 times/day/person)
- 37 Wear clothes that are safe and permit mobility to evacuate
- 39 Plan ahead
- 41 If you live in an apartment building
  
- 43 <Column> Basic knowledge of earthquakes
  
- 29 Disaster preparedness checklist ①
- 31 Disaster preparedness checklist ②





# Be prepared!

## Earthquake

Do not place heavy objects where they can fall on your head.



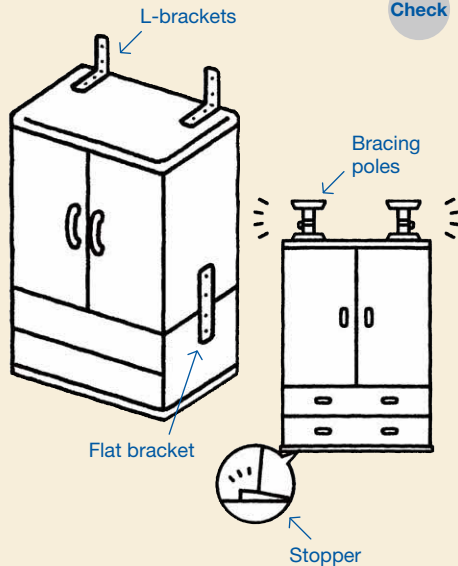
Tether hanging lights with transparent nylon rope from the ceiling to prevent dropping.

Sleep with the curtains closed.

Check where you sleep for dangers.

**Check** Do not place furniture that can topple over in bedrooms or other rooms used by children, elderly or sick persons.

**Check** Do not obstruct doorways or passageways with objects.



Anchor furniture to prevent it from toppling over. Do not place dangerous items in high places.

[From a survey of Suita residents]

I take measures to prevent furniture and appliances from falling over.

33.5 %

## Storm and flood



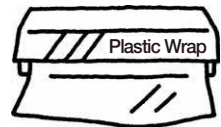
If a typhoon is approaching, move plants, laundry poles and outdoor items indoors before the storm arrives.



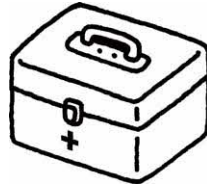
Keep gutters clean on a regular basis.



# Disaster preparedness checklist 1 Check the box (☑) of emergency supplies you have at home.



Heatable kitchen wrap



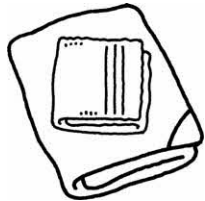
First-aid kit/Household medicines



Emergency toilet



Gloves



Blankets and towels



Plastic bags



Canned foods



Underwear



Flashlight



Rain gear



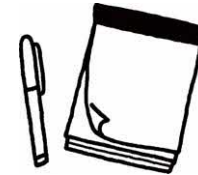
Map



Portable gas stove and gas canisters



Bottled water



Writing tools and paper



Disposable heat packs



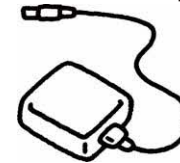
Stuffed animals/toys



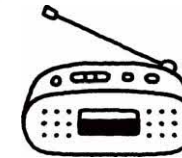
Glasses



Instant noodles



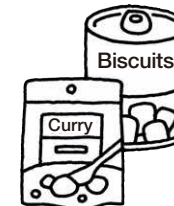
Cellphone charger



Portable radio



Precooked rice



Retort foods/Preserved foods



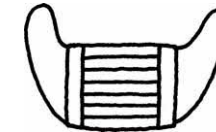
Handy wipes



Water tank



Whistle



Masks



Valuables



Disposable plates and cups



Plastic sheet





## Disaster preparedness checklist 2

### Sort emergency supplies by those you will take with you in an evacuation and those you keep at home.

#### Emergency supplies to take with you in an evacuation

● Keep these items in a readily accessible place so that you can gather them quickly if needing to evacuate.



Portable radio



Cellphone charger



Flashlight

Prepare spare batteries, too.



Whistle

Useful for calling for help if trapped or unable to move. Emergency buzzers work, too.



Gloves



Writing tools and paper



Glasses



Valuables

Health insurance card, maternal and child health handbook, etc.



Plastic sheet



Rain gear



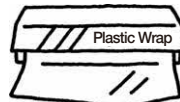
Stuffed animals/toys



Map

#### Emergency food and water

Prepare bottled beverages (water, juice, etc.) and foods that can be eaten without cooking such as canned foods, cookies, etc. Chocolate, caramels and other snacks are good emergency foods because they are high in calories. Prepare also retort foods, instant noodles and the like.



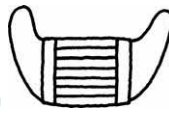
Plastic Wrap

#### Heatable kitchen wrap

Plates can be covered in plastic wrap to conserve water consumed by washing dishes. Aluminum foil is useful in cooking.



Plastic bags



Masks

Protect against dust, blown sand and infectious diseases.



Underwear



Emergency toilet



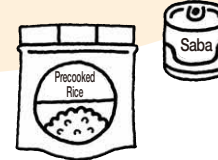
Water



Do not forget baby formula and baby bottles.



Yakitori



Precooked Rice

Saba



Handy wipes

For keeping hands clean. Wipe the whole body if bathing is not possible.



First-aid kit/Household medicines

Adhesive plasters, bandages, gauze, tweezers, scissors, nail clippers, cooling sheets, etc.

#### Emergency supplies you keep at home

● Things needed to survive several days after a disaster



Water tank

Foldable tanks are available.



Blankets and towels



Disposable heat packs



Disposable plates and cups



Portable gas stove and gas canisters

#### Lots can be found at a ¥100 shop!

If shopping for emergency supplies seems bothersome, you can find knives, lighters, slippers, aluminum sheets, portable toilets and more all in one place.

What you need and how much will differ by who is in your family and their ages. Carefully think about what you need and prepare it.



Needed for families with infants



Needed for households with elderly persons

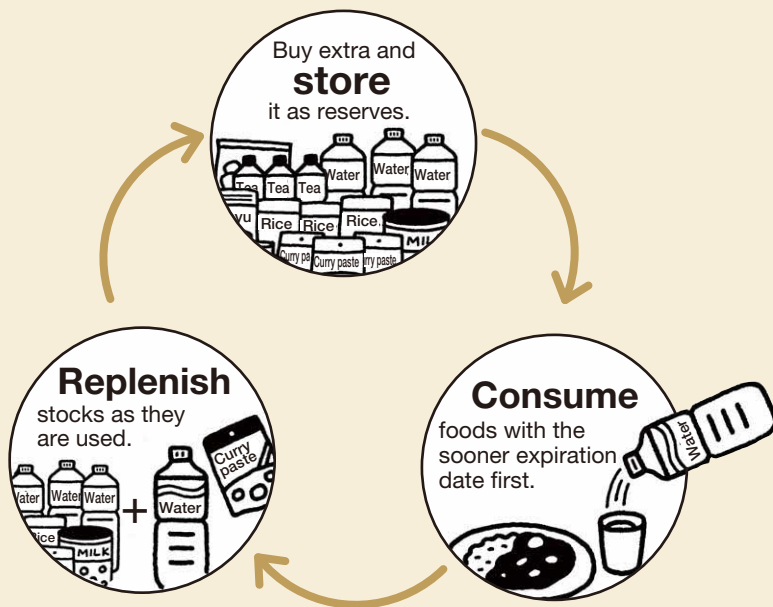


## Maintain reserves of food and water.

Keep 3 days' worth — if possible, 7 days' worth or more — of food reserves and enough water to provide each person with 3 L per day.

Buy more of the foods, water and other daily essentials you normally do and replenish stocks as they are used.

### How to maintain reserves



A little effort in your daily routine will pay off a natural disaster.

### Even if you evacuate to a refuge

They say that emergency supplies take 3 days to get where they are needed. So, bring enough food and water to last you and your family for at least 3 days, a week if possible.



Fresh foods are unavailable in a disaster. Therefore, keep food reserves that make up for lost nutrition in order to maintain a nutritional balance.

Prepare foods needed by children, elderly and family members with allergies.



Refrigerated foods work as reserves, too. But, in a disaster, consume perishables first.

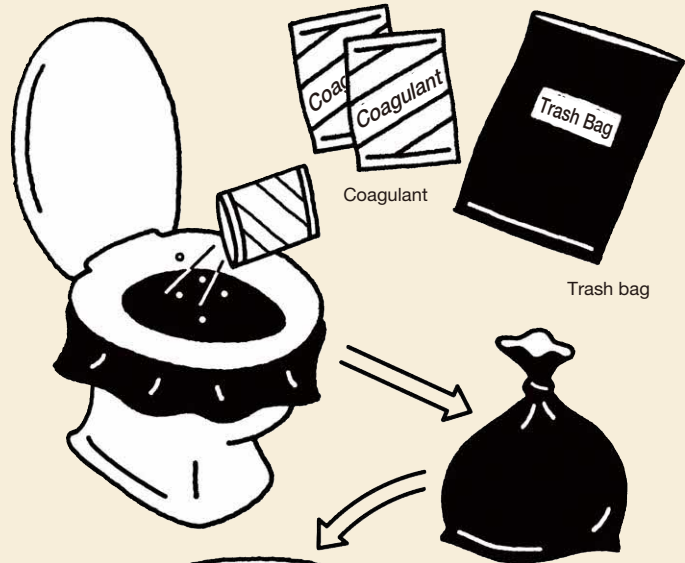


# Prepare sanitary needs for your family (Toilet frequency: 5 times/day/person).

## Emergency toilet set

Cover the bowl with a trash bag.  
Add coagulant after using the toilet.

● Set contents



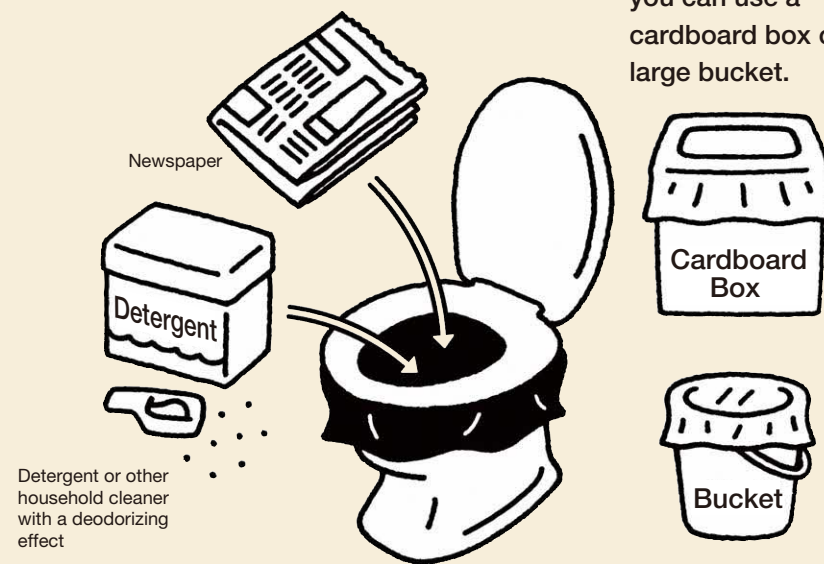
Tie the trash bag closed.

Discard with ordinary waste.

\* Store toilet waste at home until trash collection resumes.

## Makeshift toilet ideas

If your toilet is broken, you can use a cardboard box or large bucket.



Detergent or other household cleaner with a deodorizing effect

### Even though your toilet works ...

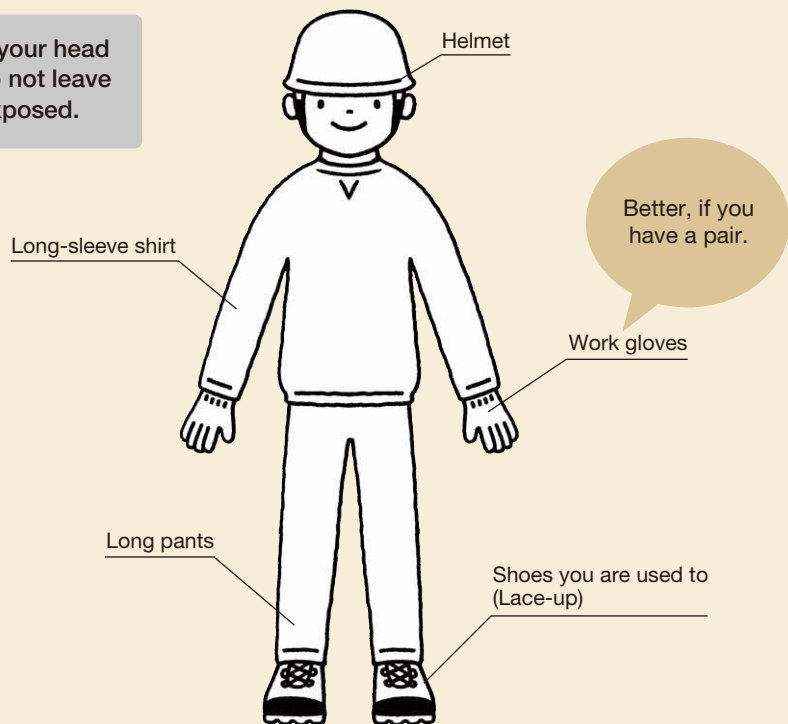
When your toilet does not flush because of a water supply interruption or busted drain pipe, wastewater can back up and overflow, if you use your toilet. In an apartment building, this can affect lower floors. Therefore, if you do not know whether drain pipes are intact or not, use an emergency toilet.





# Wear clothes that are safe and permit mobility to evacuate.

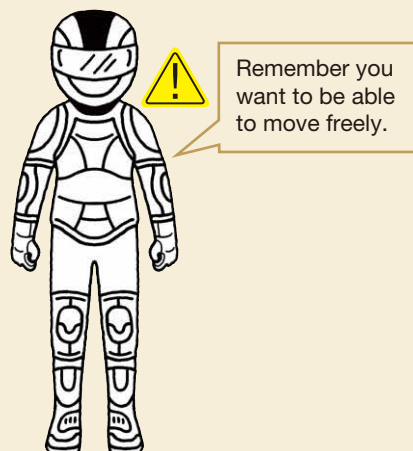
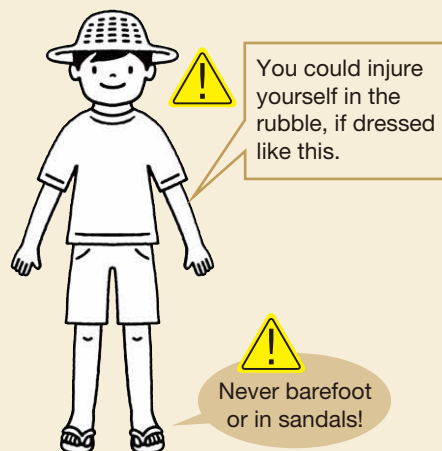
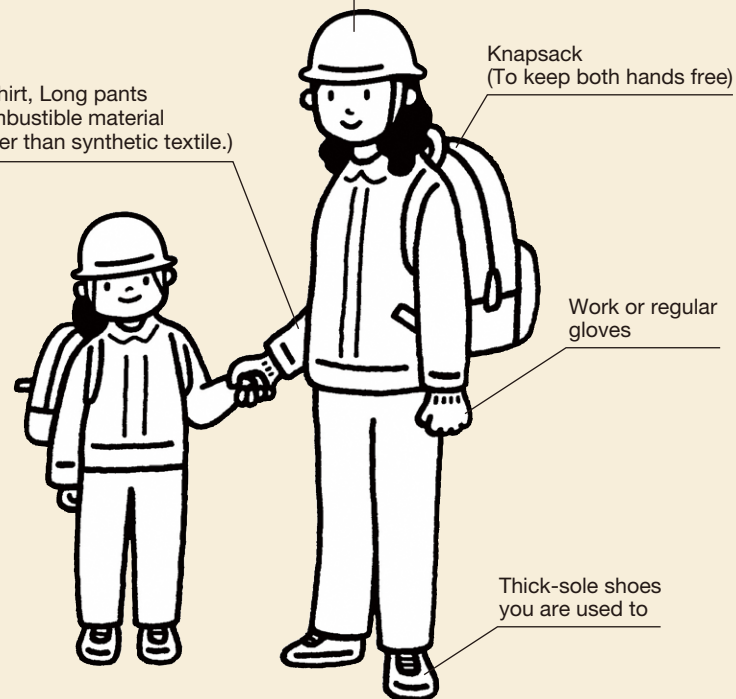
Cover your head and do not leave skin exposed.



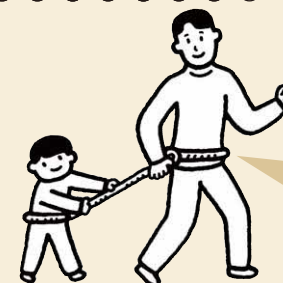
## How to dress for evacuation

Helmet  
Disaster-appropriate hood  
(Otherwise a hat)

Long-sleeve shirt, Long pants  
Made of incombustible material  
(Cotton is better than synthetic textile.)



## Added precaution for floods

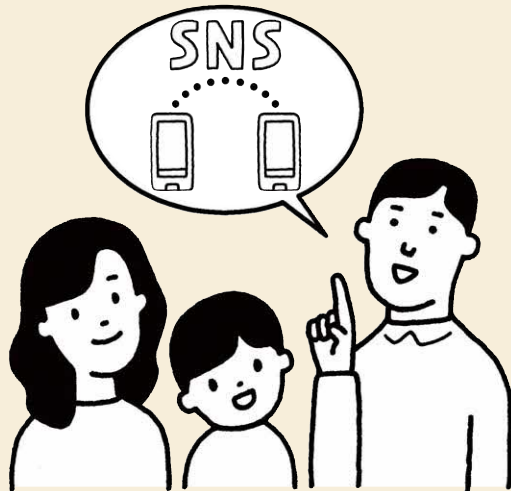


Keep small children from being washed away.





## Plan ahead.



Determine how to contact each other in the event of a disaster.

### Use email and social media.

Regularly using email, LINE and social media like Facebook and Twitter will prove useful in an emergency.

[From a survey of Suita residents]



We have determined in our family how to contact each other and where to meet in the event of a disaster. **23.4 %**



I know the evacuation route to the refuge near my house. **34.5 %**

Locate the refuge and confirm the route there with your family.



Walk the route to the refuge to identify any dangers and see how long it takes to get there.

### Disaster message services

- Disaster Emergency Message Dial (#171)
- Disaster Message Board (From cellphones)
- web171 (From PC)



Leave a note on your door.



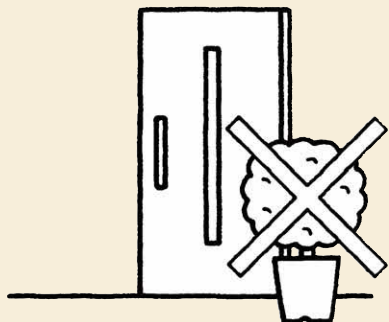


# If you live in an apartment building

Keep partitions and emergency hatches clear and unobstructed.



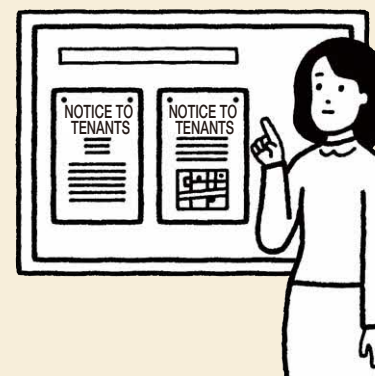
Keep passageways, emergency stairs and emergency exits clear and unobstructed.



Confirm where fire extinguishers are and how to use them.



Pay attention to communications from building management.



If the pumps stop working, there is no water supply. Prepare ample food and water reserves especially if living on the upper floors.



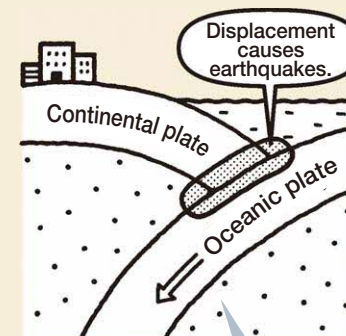
## Basic knowledge of earthquakes

Earthquakes are caused by the release of energy accumulated in the bedrock deep underground as the bedrock is displaced.

The shaking felt in an earthquake is measured in 10 levels of “seismic intensity” from 0 to 7.

Seismic Intensity 0 – 3	<ul style="list-style-type: none"> <li>● Shaking is not perceived. – Shaking is perceived indoors.</li> </ul>	
Seismic Intensity 4	<ul style="list-style-type: none"> <li>● Hanging lights sway considerably.</li> </ul>	
Seismic Intensity 5 Weak	<ul style="list-style-type: none"> <li>● Most people look for something to hold onto out of fear.</li> </ul>	
Seismic Intensity 5 Strong	<ul style="list-style-type: none"> <li>● It is difficult to walk without holding onto something.</li> <li>● Unanchored furniture topples over.</li> </ul> <p>Seismic intensity recorded in the Northern Osaka Earthquake in 06/2018</p>	
Seismic Intensity 6 Weak	<ul style="list-style-type: none"> <li>● Wall tiles and windows break and scatter shards. Doors jam.</li> </ul> <p>Predicted intensity of massive Nankai Trough Earthquake</p>	
Seismic Intensity 6 Strong	<ul style="list-style-type: none"> <li>● Most unanchored furniture is displaced and many pieces topple over.</li> <li>● It is impossible to move without crawling.</li> </ul> <p>Predicted intensity of Uemachi Fault Earthquake (In most of the city)</p>	
Seismic Intensity 7	<ul style="list-style-type: none"> <li>● Many wooden buildings of low aseismic performance lean or collapse.</li> <li>● Reinforced concrete buildings of low aseismic performance collapse.</li> </ul> <p>Predicted intensity of Uemachi Fault Earthquake (In parts of the city)</p>	

Created from the seismic intensity table of the Japan Meteorological Agency



Moves anywhere from a few cm to 10 cm a year.

### Earthquake mechanism at the interface of tectonic plates

The earth's crust is composed of some 10 odd bedrock plates, 4 of which converge around Japan and apply complicated mechanical forces that make Japan one of the world's most active earthquake zones.

#### [Interplate earthquake]

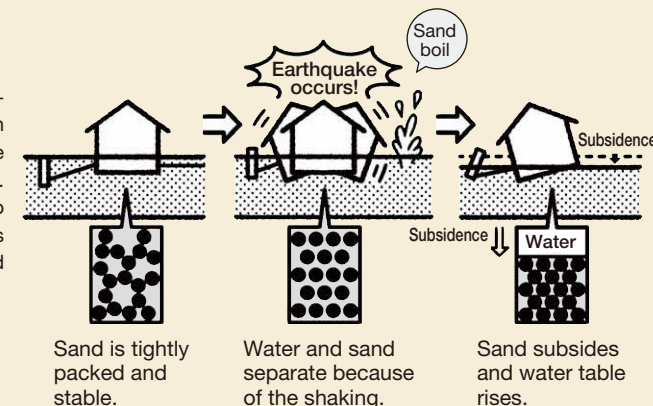
As the oceanic plate sinks, it drags the continental plate underground. When the continental plate can no longer withstand being dragged under, it snaps back into place, causing earthquakes in the process. Tsunamis are a threat to coastal areas. (e.g. Great East Japan Earthquake of 2011)

#### [Intraplate (inland, near-field) earthquake]

This type of earthquake is caused by pressure build-up behind the tectonic interface. Earthquakes can occur either in the oceanic plate or in shallow areas (active faults) of the continental plate. (e.g. Great Hanshin-Awaji Earthquake of 1995, Niigata Chuetsu Earthquake of 2004, and Kumamoto Earthquake of 2016)

#### [Liquefaction]

Liquefaction is an earthquake-driven phenomenon in which the ground is liquefied by the shaking from the earthquake. It can cause buildings to subside and lean, as well as displace sewer pipes and blow off manhole covers.



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# 3 Life after a natural disaster

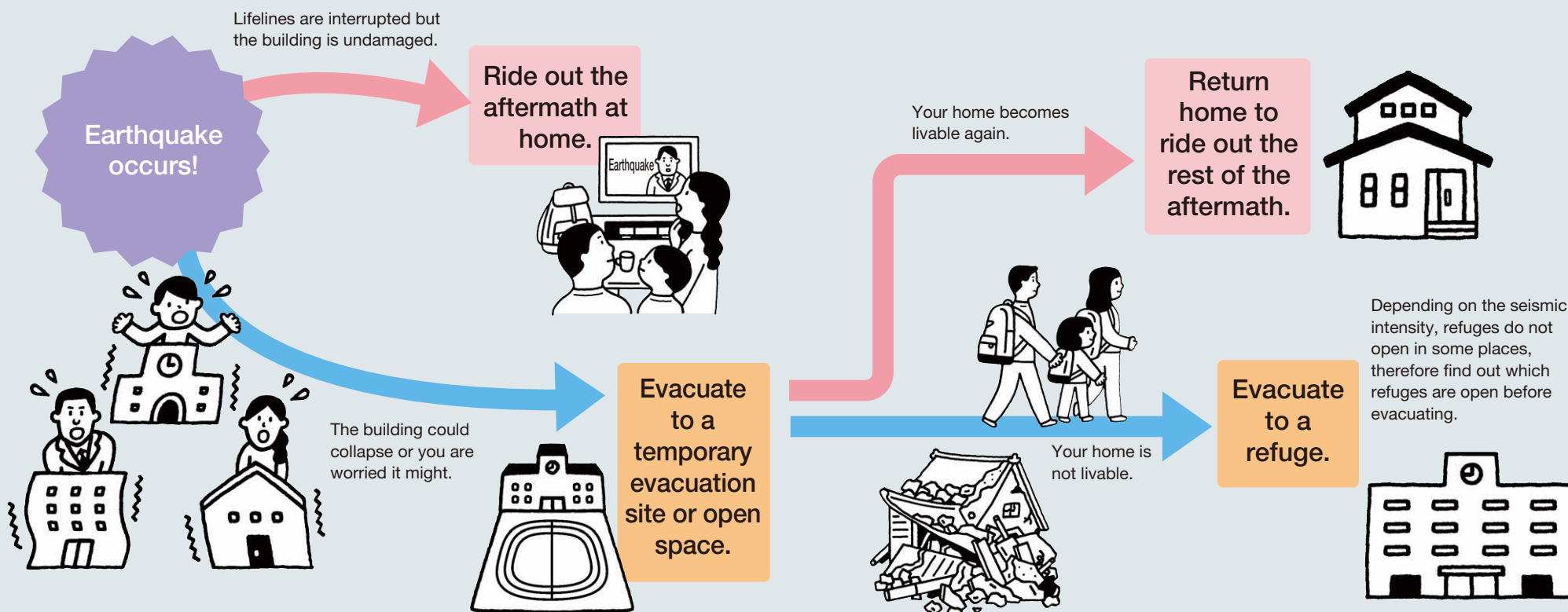
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After a natural disaster, check the damage situation and decide whether to go to a refuge or ride the aftermath out at home. The better prepared you are, the better your chances are of cutting it at home.

- 47 Know the evacuation process
- 49 Rules on garbage from a natural disaster
- 51 Getting through a disaster with pets
- 53 Rules and etiquette to observe at refuges
  
- 55 <Column> Caring for the mental health of children



## Know the evacuation process.



### Temporary evacuation site

These sites are believed safe against secondary disasters that can be triggered by aftershocks, etc. They have been designated by the city for people who prefer not to wait out the early moments after a disaster at home. An open space of about 1 ha (10,000 m<sup>2</sup>) or larger.

[From a survey of Suita residents]



I know where the temporary evacuation site near my home is.  
69.1 %

### Wider-area evacuation site

These sites are believed safe against spreading fires and other dangers. This is where you should evacuate if so instructed by municipal staff, police or fire crew. An open space of about 10 ha (100,000 m<sup>2</sup>) or larger.

[From a survey of Suita residents]



I know where the wider-area evacuation site near my home is.  
54.1 %

### Refuge shelter

The city opens refuges when homes have been totally or partially destroyed by an earthquake, or there is storm and flood damage.

[From a survey of Suita residents]



I know where the refuge near my home is.  
71.2 %

### Welfare refuge

These refuges are for people that require special assistance such as persons with disabilities, etc. They are not opened immediately after a disaster.

[From a survey of Suita residents]



I know where the welfare refuge near my home is.  
16.7 %





## Rules on garbage from a natural disaster



Store garbage at home until trash collection resumes.



Do not place garbage on the street as it can block emergency vehicles.



Separating your garbage is all the more important because of the disaster situation.

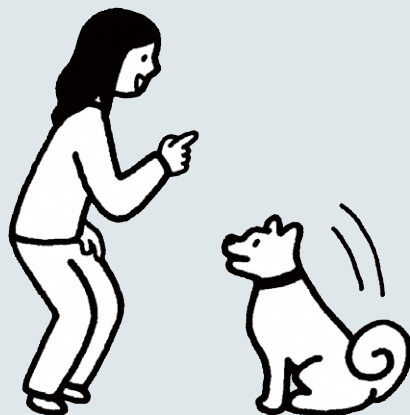


Place damaged furniture and other waste that must be discarded in a hurry in the designated location.



## Getting through a disaster with pets

Disciplining your pet will prove useful in a disaster.



Acquaint your pet to cages and carriers.

Train your pet to do his/her business in a designated spot.



Vaccinate your pet.



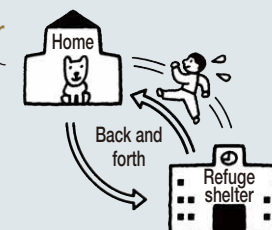
Microchip or fit your pet with a collar and tag.



Do not forget to prepare emergency supplies for your pet.

### How to live with your pet in a refuge shelter

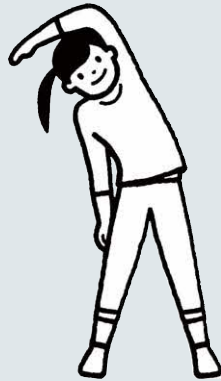
- Abide by shelter rules and tend to your pet responsibly.
- Keep your pet caged or leashed out of consideration for children and persons with pet allergies.
- Periodically walk your pet so that he/she does not become stressed.
- Bring your pet to evacuation drills so that he/she can get used to being around people.
- You can also leave your pet at home and return to take care of him/her.
- It is important to secure a place for your pet in the event of an emergency.



For more information, see the Ministry of the Environment's "Are You and Your Pets Safe in Case of Disaster? Disaster Preparedness Guideline for Humans and Pets <For General Pet Owners>".

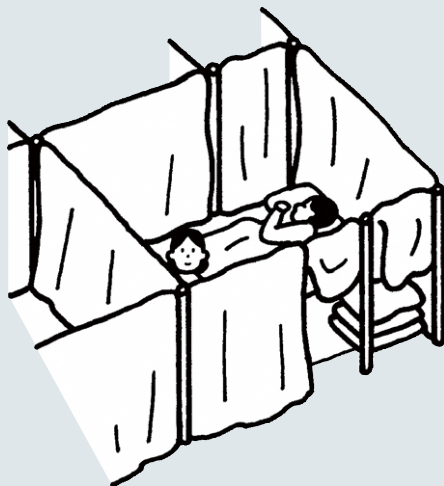


## Rules and etiquette to observe at refuges



Life in a refuge can be stressful. Manage your health and well-being.

The evacuees themselves divide up the responsibilities and manage the refuge.



Respect the privacy of others.

Keeping the refuge clean and sanitary lessens the risk of infectious diseases, etc.



Be sensitive to the needs of elderly persons, pregnant women, etc.

### Safeguard yourself and your belongings.



- Keep valuables on your person at all times.
- Do not talk about money in front of strangers.
- Move in groups and avoid blind spots.
- Do not leave children unattended.
- Talk to and help other evacuees.





## Caring for the mental health of children

What is the best thing to say to children?  
How can you engage children without hurting their feelings?

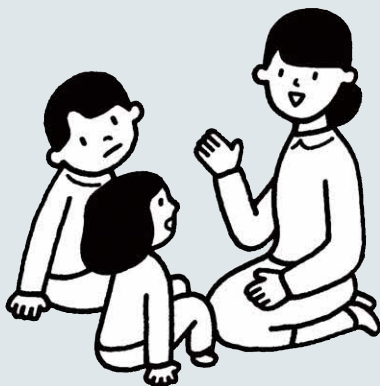
### Watch

Watch out for children that are not behaving as usual.



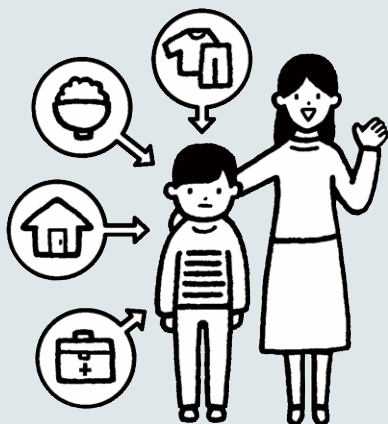
### Listen

Listen to what children have to say so that they can vent their feelings.



### Seek help

Consult a specialist if further support is needed.



### Typical reactions exhibited by children in an emergency

- Age 0 – About 3 years** Become frightened by things that did not frighten them before.
- Age 4 – About 6 years** Blame themselves for tragic events and begin talking about things that did not happen.
- Age 7 – About 12 years** Act out the event that occurred when playing. (This is how they release stress, therefore watch them without interfering.)
- Age 13 and older** Become self-destructive, avoid others and exhibit increasingly aggressive behavior.

Children can become frightened by the shaking caused by aftershocks and may have to sleep in the car.

### What you can do ahead of time

- Include toys your children are used to in the emergency supplies you take with you in an evacuation.
- Talk to your children about how to act in an emergency ahead of time.



### Message to children

Tell grown-ups around you if you are feeling down or sad, and you have no one to share your feelings with.

\* The above information was prepared from "Psychological First Aid for Children" at [www.savechildren.or.jp](http://www.savechildren.or.jp).

# Flood Hazard Map

## [Perspective on estimated flood and inundation districts]

- This flood hazard map shows disaster prevention facilities such as inundation areas, places where there is a risk of sediment-related disasters, and evacuation facilities, which are expected when rivers are flooded by heavy rain.
- The flood inundation area is expected to be flooded when the Yodo River, Kanzaki River, Ai River, Taka River, Itoda River, Kani River, Masajaku River, Yamada River, etc. are flooded due to the flood caused by the maximum expected rainfall. The situation is obtained by simulation, and the maximum inundation depth of each is superimposed and displayed.
- During an actual flood, inundation may occur or the inundation depth may become deeper in places other than the estimated inundation area shown in this map. In addition, sediment-related disasters may occur in places other than the sediment-related disaster warning areas shown in this map.  
Source: "Yodo River Flood Inundation Area Map" (Ministry of Land, Infrastructure, Transport and Tourism Yodogawa River Office)  
"Yodo River system Ai River basin flood inundation estimated area map" (Osaka)  
"Sediment-related disaster caution area and sediment-related disaster special caution area" (Osaka)

## [Rainfall conditions that are the premise of calculation]

- Yodo River system Yodo River, Uji River, Kizu River, Katsura River (Yodo River Office, March 2nd year of Reiwa)  
\*24-hour total rainfall 360 mm in the upper reaches of Hirakata
- Yodo River system, Ai River, Masajaku River, Yamada River, etc. (March 2nd year of Reiwa, Osaka Prefecture)  
\*24-hour total rainfall 776 mm, maximum hourly rainfall 189 mm in the upper reaches of the Ai River  
\*24-hour total rainfall 776 mm, 1-hour maximum rainfall 189 mm in the upper reaches of the Yamada and Taisho river basins
- Yodo River system, Kanzaki River, etc. (January 2nd year of Reiwa, Osaka Prefecture)  
\*24-hour total rainfall 737 mm, 1-hour maximum rainfall 81.1 mm (average upstream of Kashima point)
- Yodo River system, Itoda River, Kani River (January 2nd year of Reiwa, Osaka Prefecture)  
\*24-hour total rainfall 1150 mm, 1-hour maximum rainfall 145.7 mm in the upper reaches of the Kanzaki River confluence
- Yodo River system, Taka River (January 2nd year of Reiwa, Osaka Prefecture)  
\*24-hour total rainfall 1150 mm, 1-hour maximum rainfall 145.4 mm in the upper reaches of the Kanzaki River confluence

## Legend of facilities etc.

- Designated emergency evacuation shelters (flooding & landslide disaster)
- Fire stations & outposts
- City Hall and city government outposts
- Disaster-prevention administrative wireless system (loudspeakers)
- Buildings for evacuation in the event of tsunami & floods
- Underground passages

- National roads
- Prefectural roads
- Expressways
- Railways & monorails

## Landslide disaster (special) warning districts

### Collapse of steep slopes

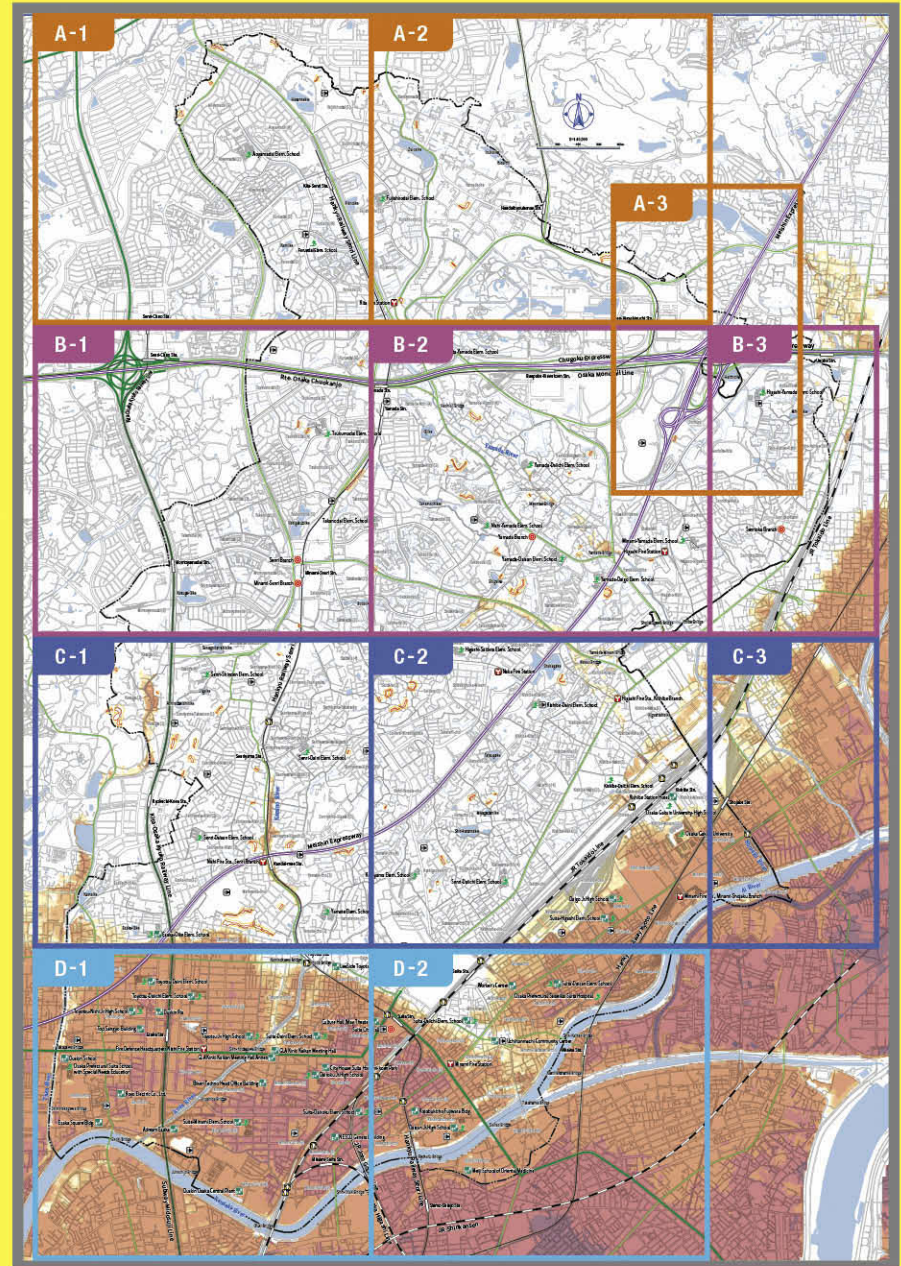
- Landslide disaster special warning districts
- Landslide disaster warning districts

## Estimated flood and inundation districts

Areas where areas where flood floods are expected are overlapped

- 10.0 m or more
- 5.0 - less than 10.0 m
- 3.0 - less than 5.0 m
- 1.0 - less than 3.0 m
- 0.5 - less than 1.0 m
- 0.3 - less than 0.5 m
- Less than 0.3 m

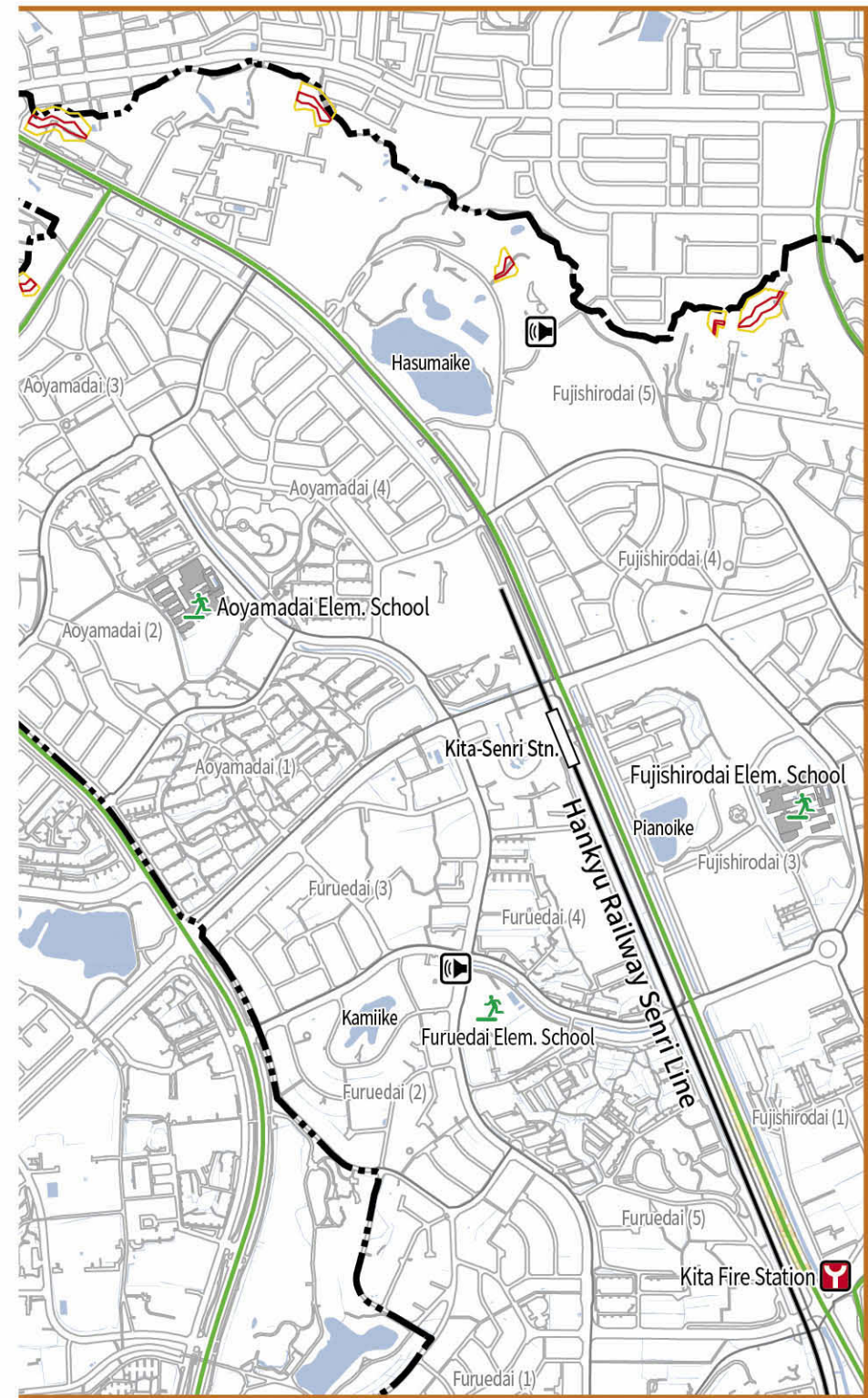
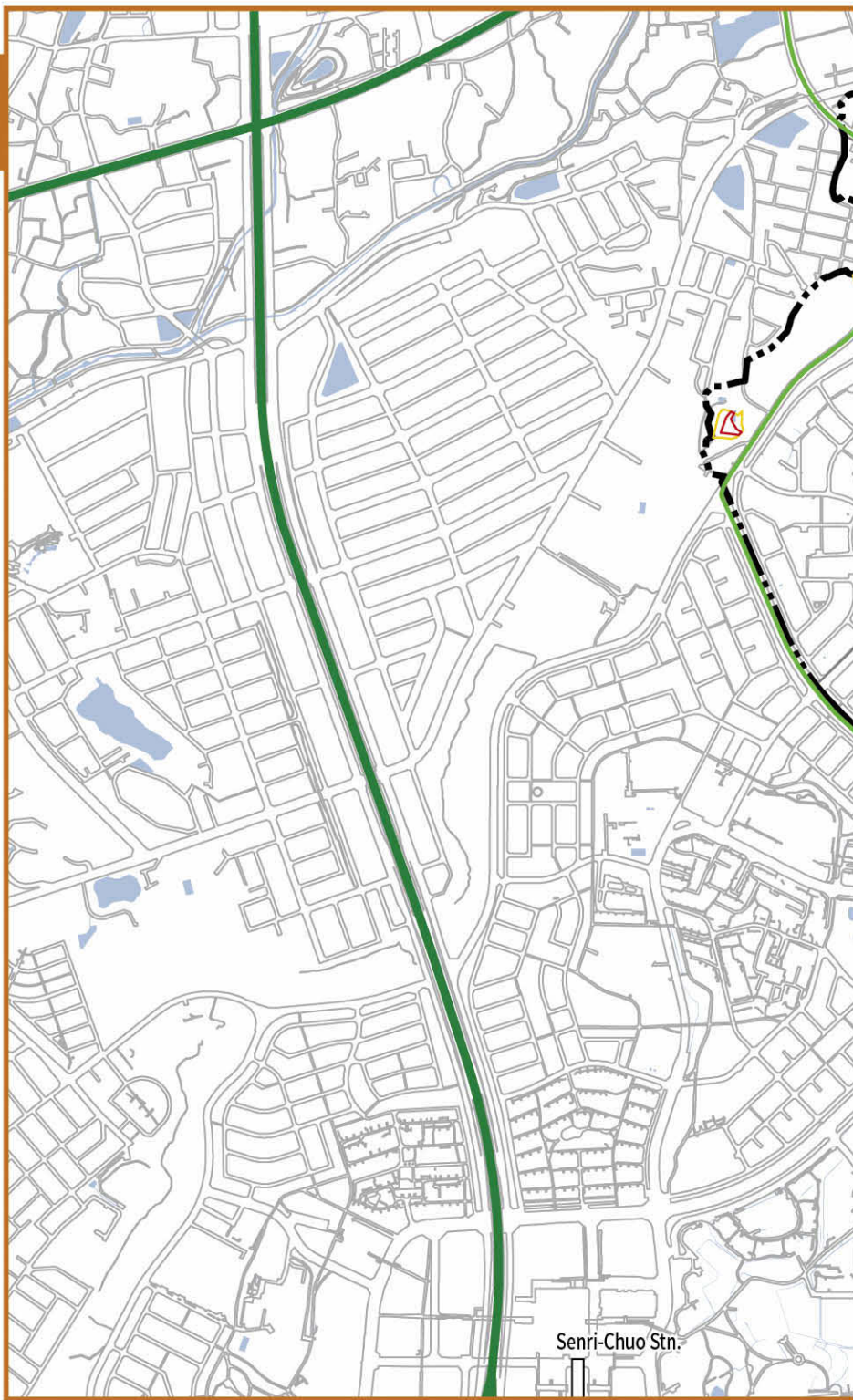
## Inundation depth guidelines



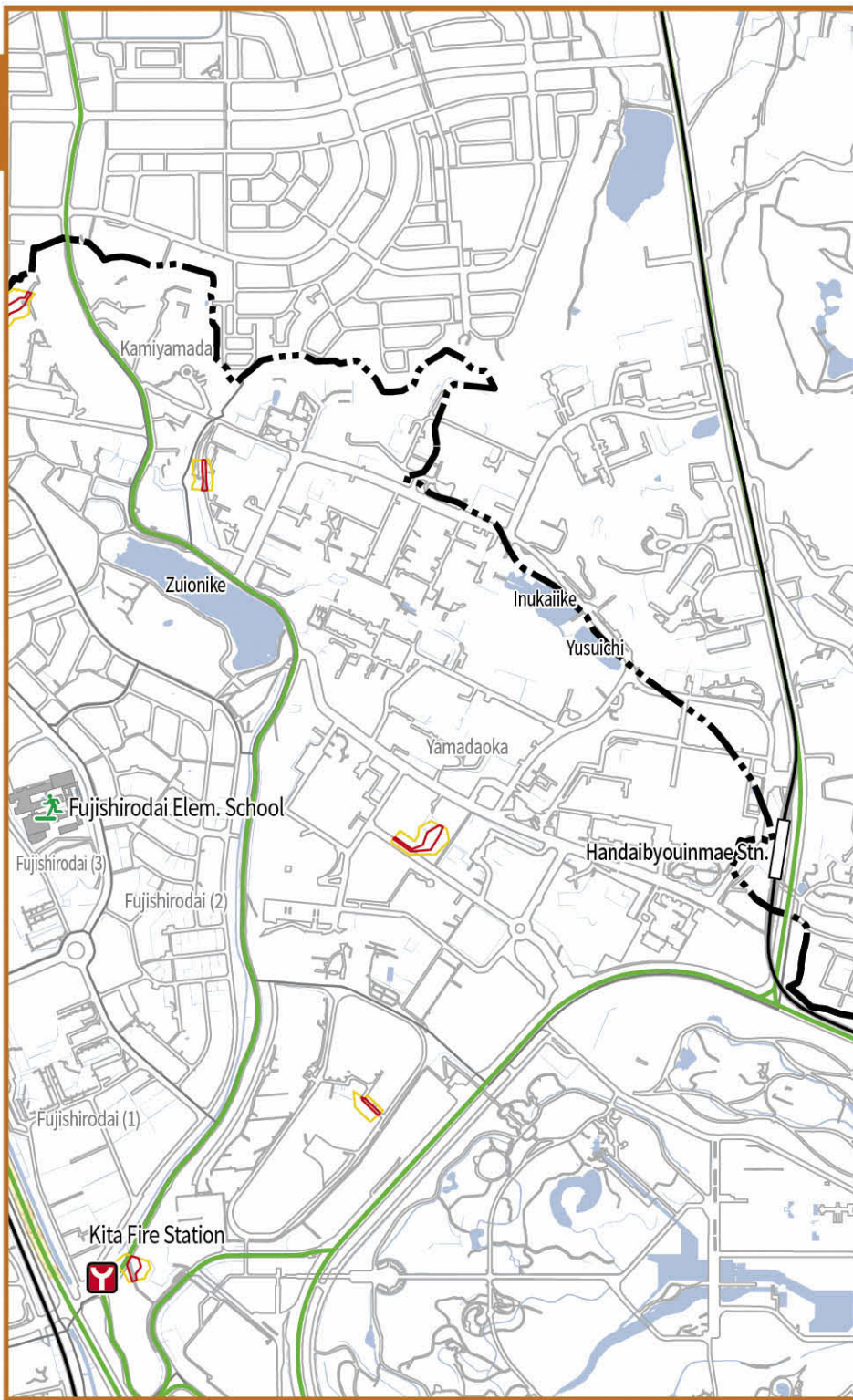
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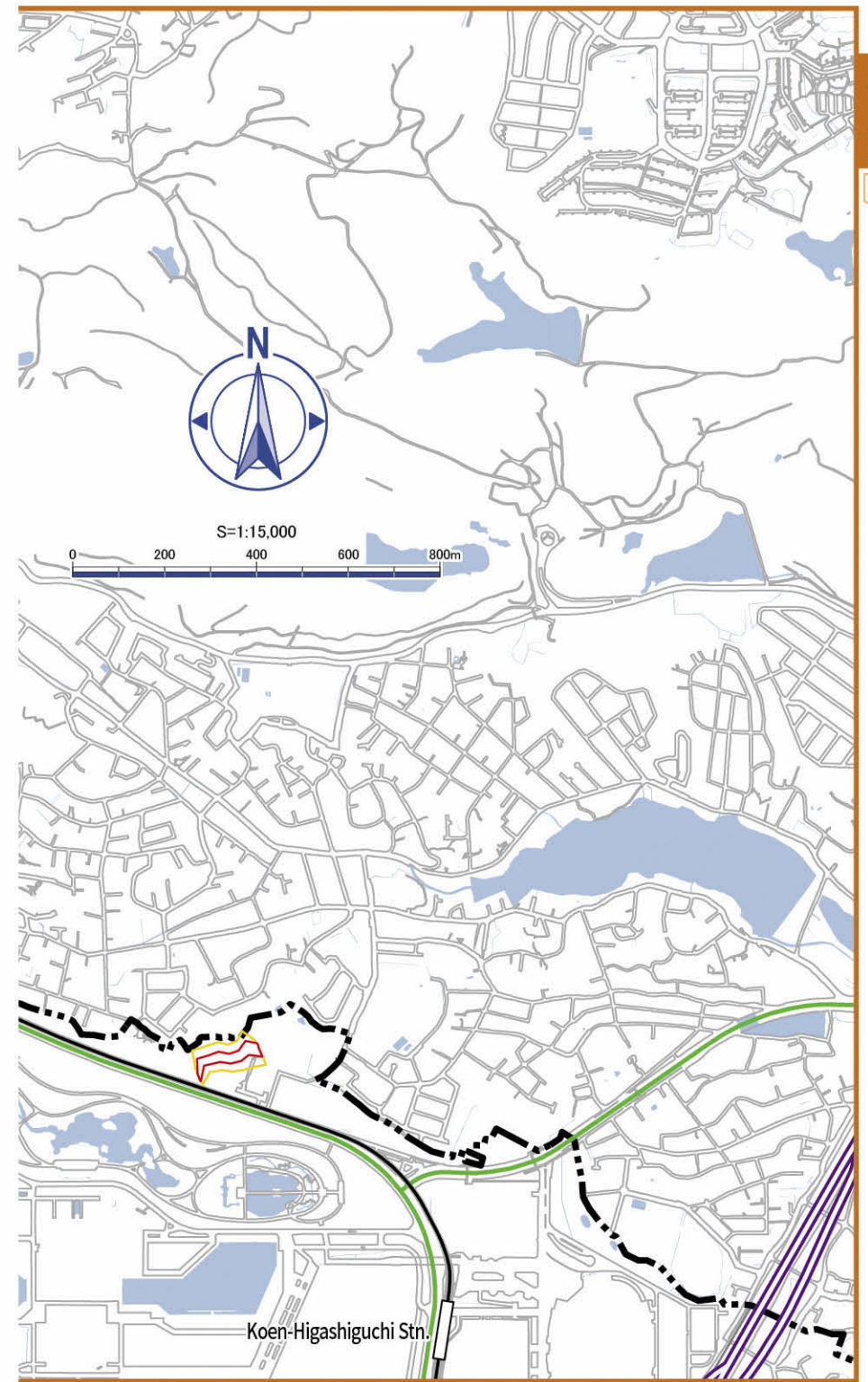


A

B

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D



A

B

C

D

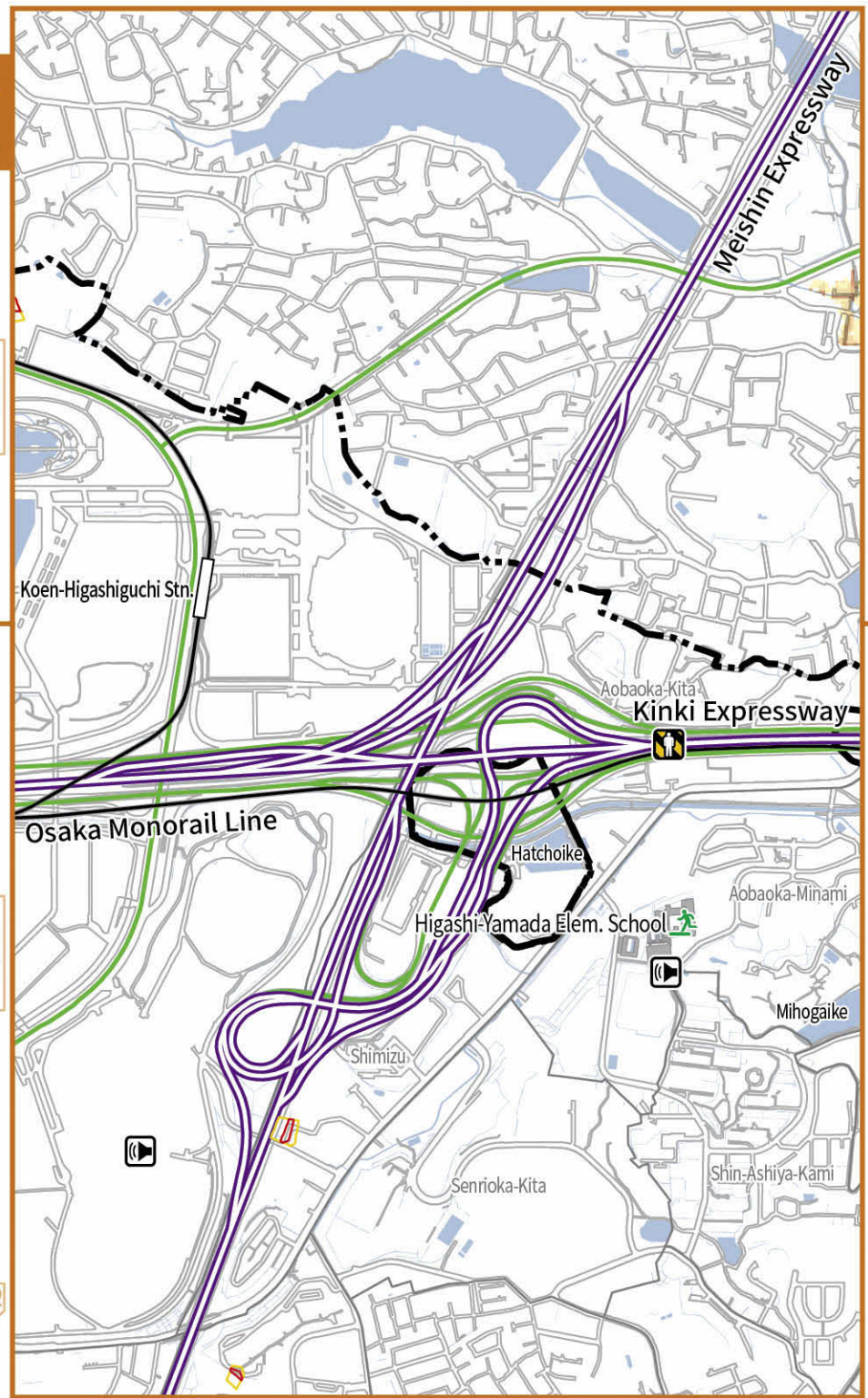


A-3

A-2

B-2

B-2



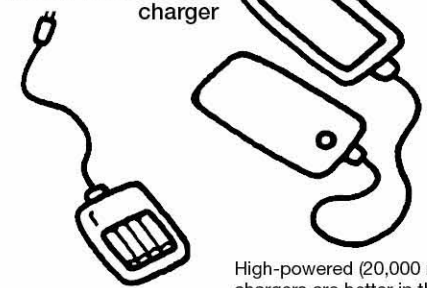
# PICK UP Update your supplies 1

## Emergency supplies to take with you in an evacuation

● Keep these items in a readily accessible place so that you can gather them quickly if needing to evacuate.

Don't forget to update these supplies, too!

Mobile batteries and charger



Prepare battery-operated type, too.

High-powered (20,000 mAh) chargers are better in the long run.



Household medicines and medicine notebook

Sanitizers



For relieving stress

Prepare activities that help pass the time.

Cards



Snacks

## An activity vest can prove useful.

A vest with multiple pockets like those used for fishing allows you to carry your emergency supplies on you.

- Both hands are free.
- Needed items can be immediately retrieved from pockets.
- Defends against the cold and elements.

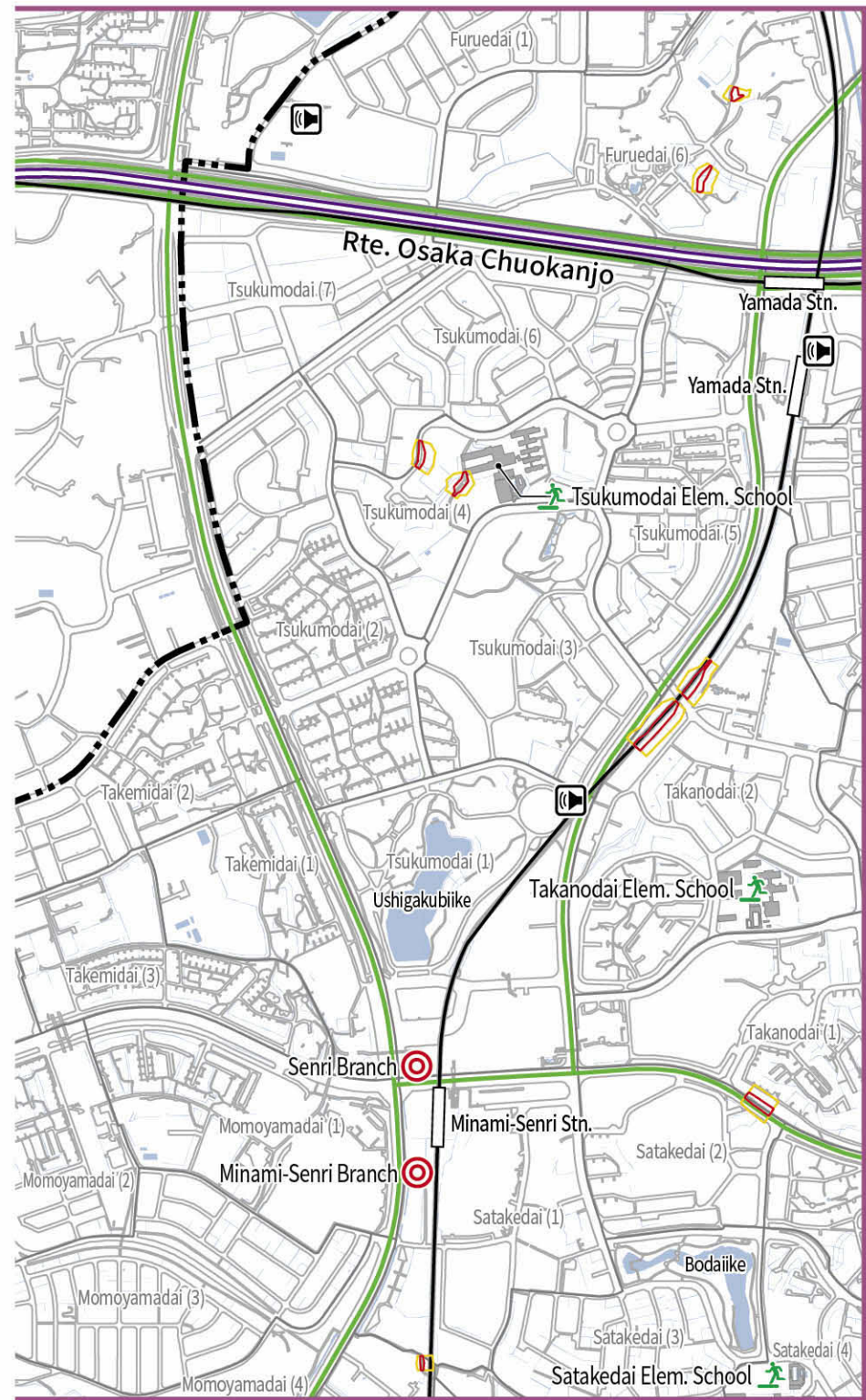




A-1  
B-1  
C-1



A-1  
B-1  
B-2  
C-1



A

A

B

B

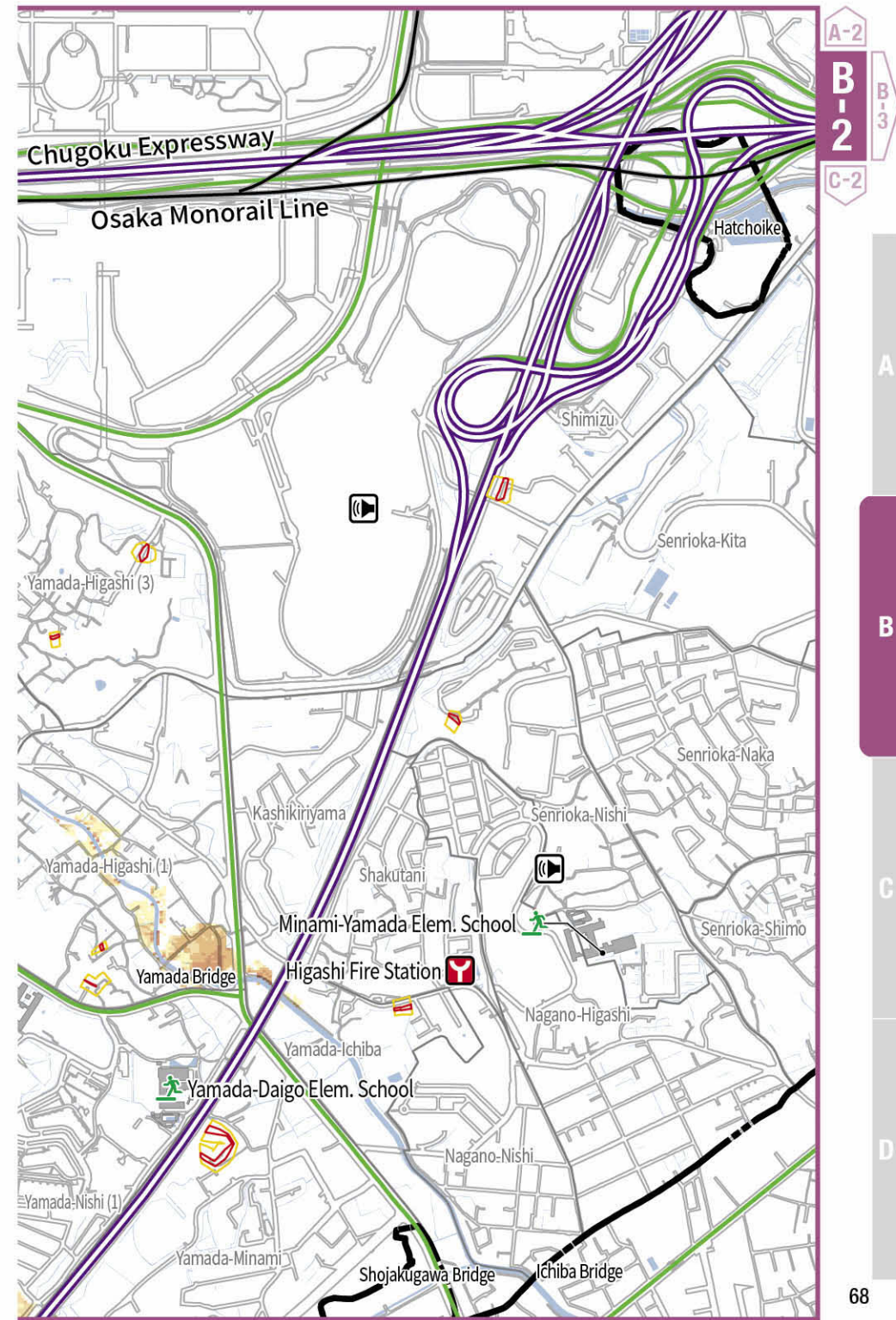
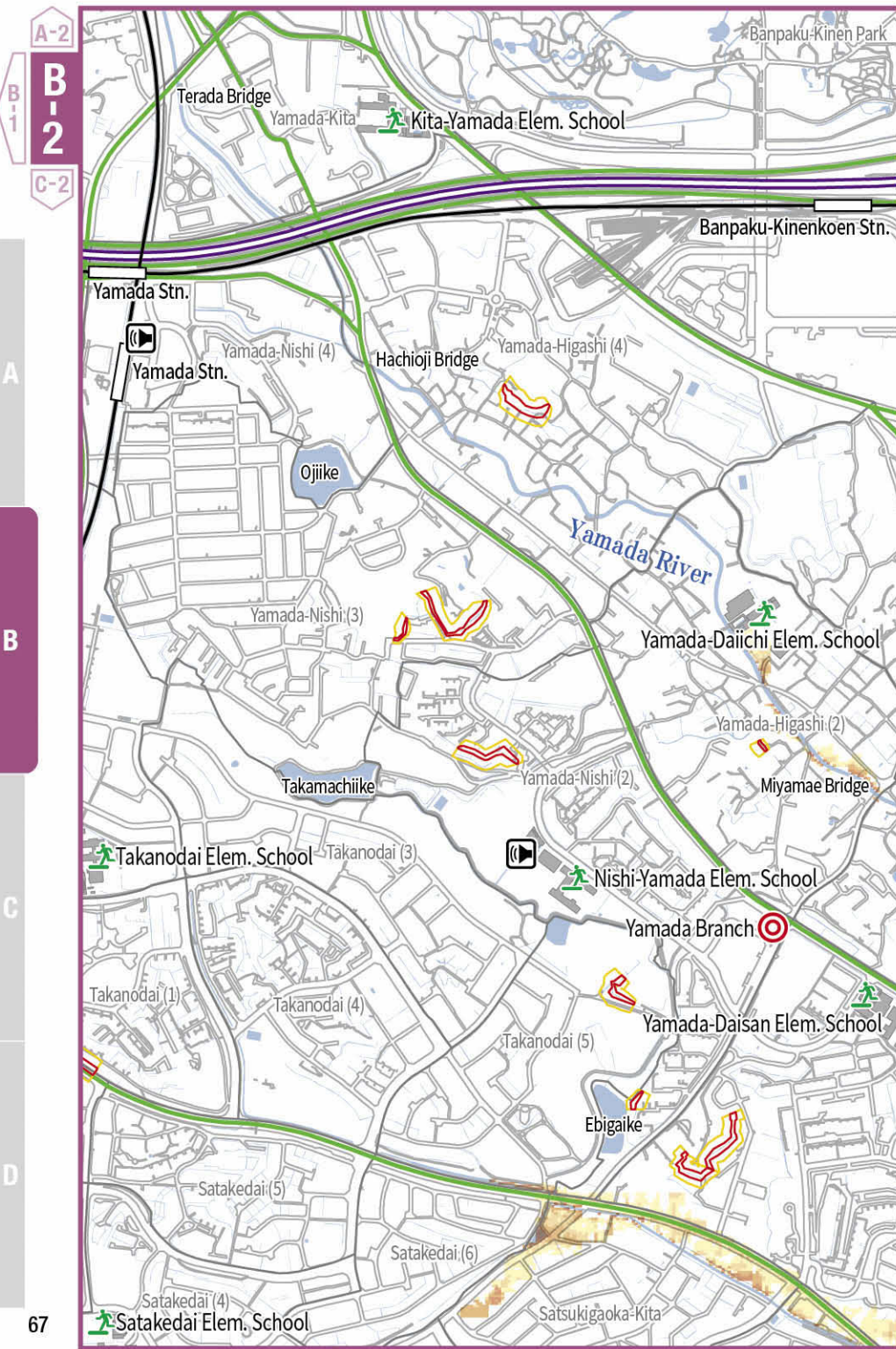
C

C

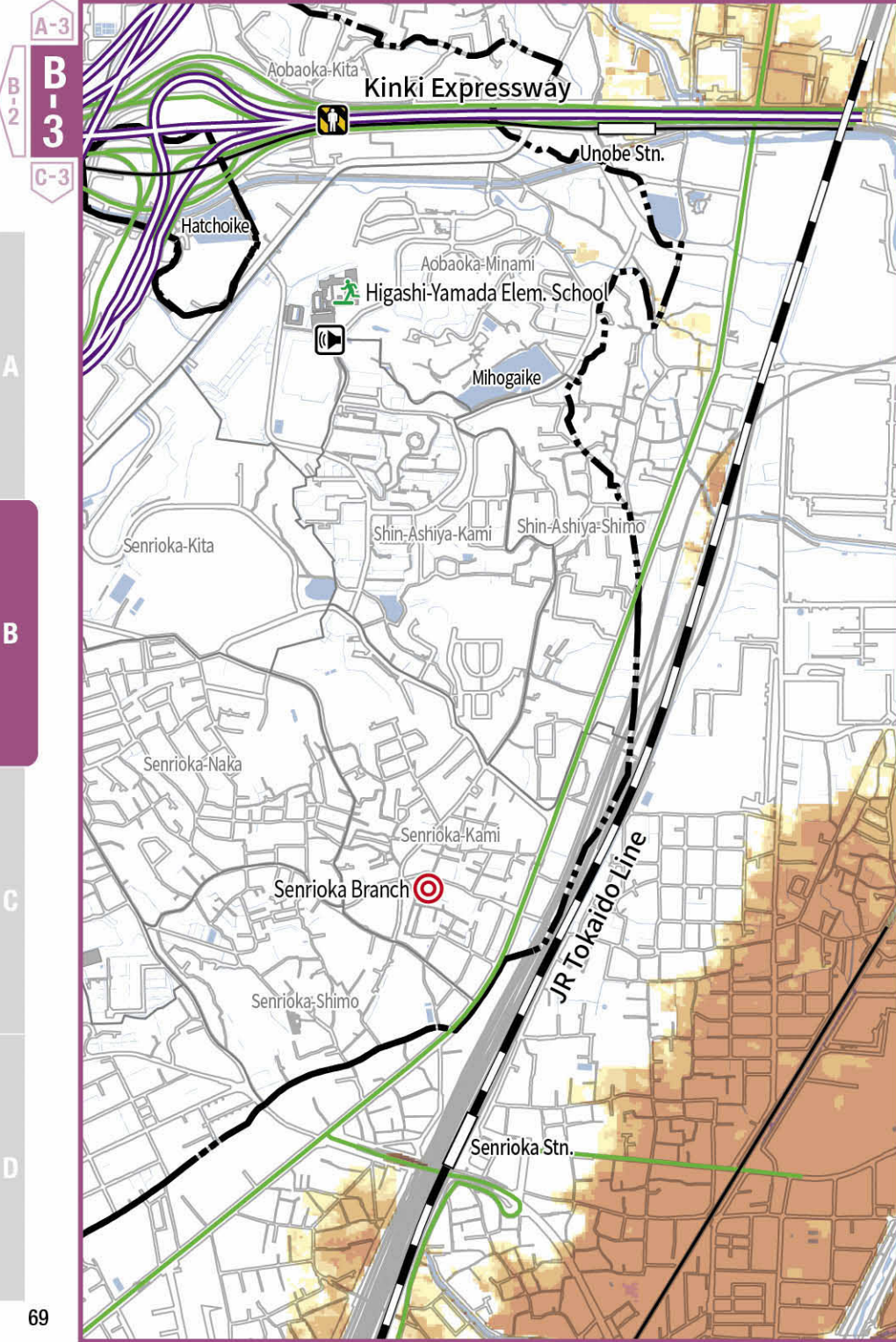
D

D









## PICK UP Update your supplies ②

Outdoor goods are effective in an evacuation.

### Emergency supplies you keep at home

● Things needed to survive several days after a disaster



**Thermally insulated mats**



**Sleeping bag**  
A good way to get sufficient sleep during an evacuation.



**Disposable heat packs (Winter)**



**Tent for a small number of people**



**Water filter**  
Useful when potable water is unavailable nearby.

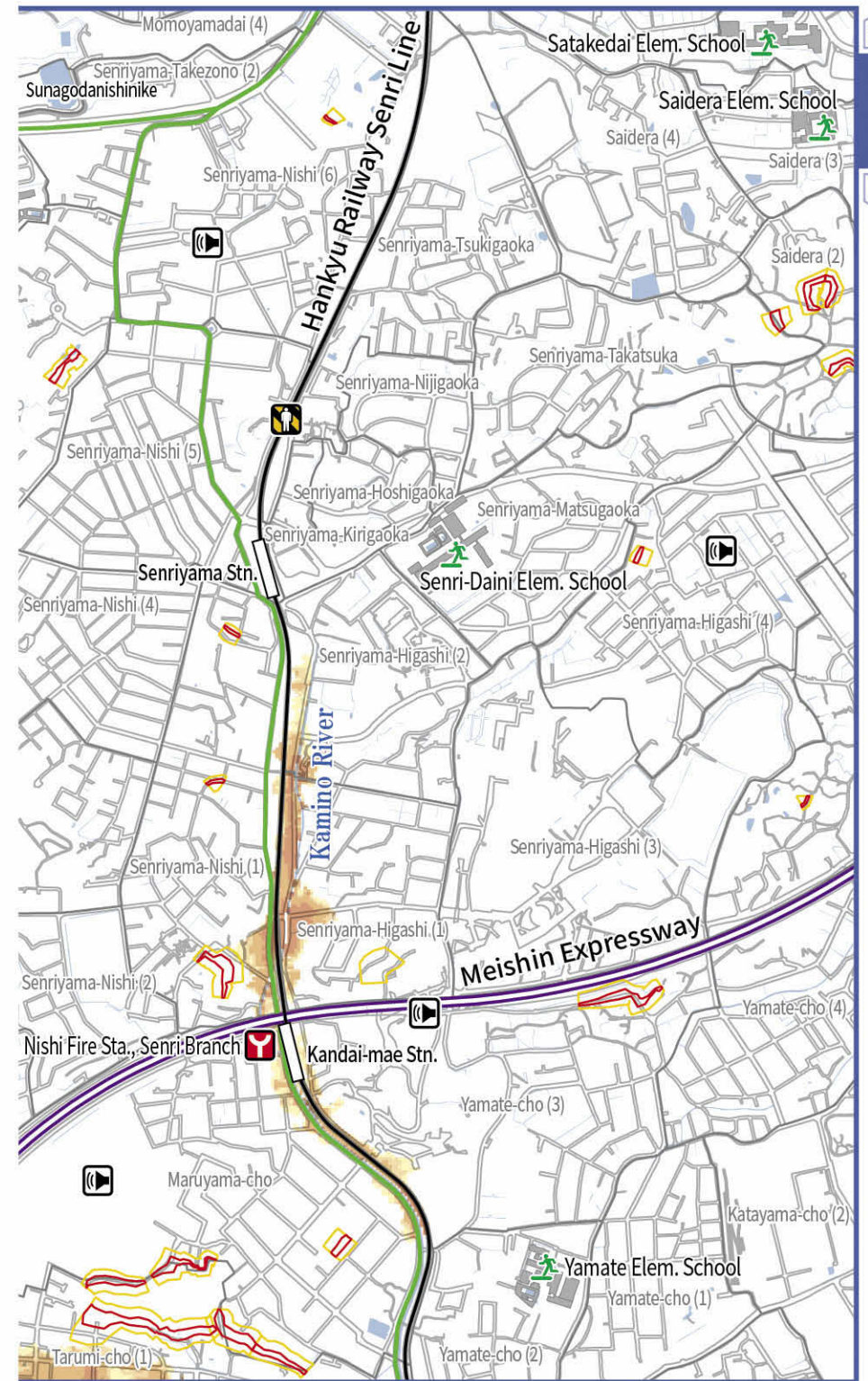
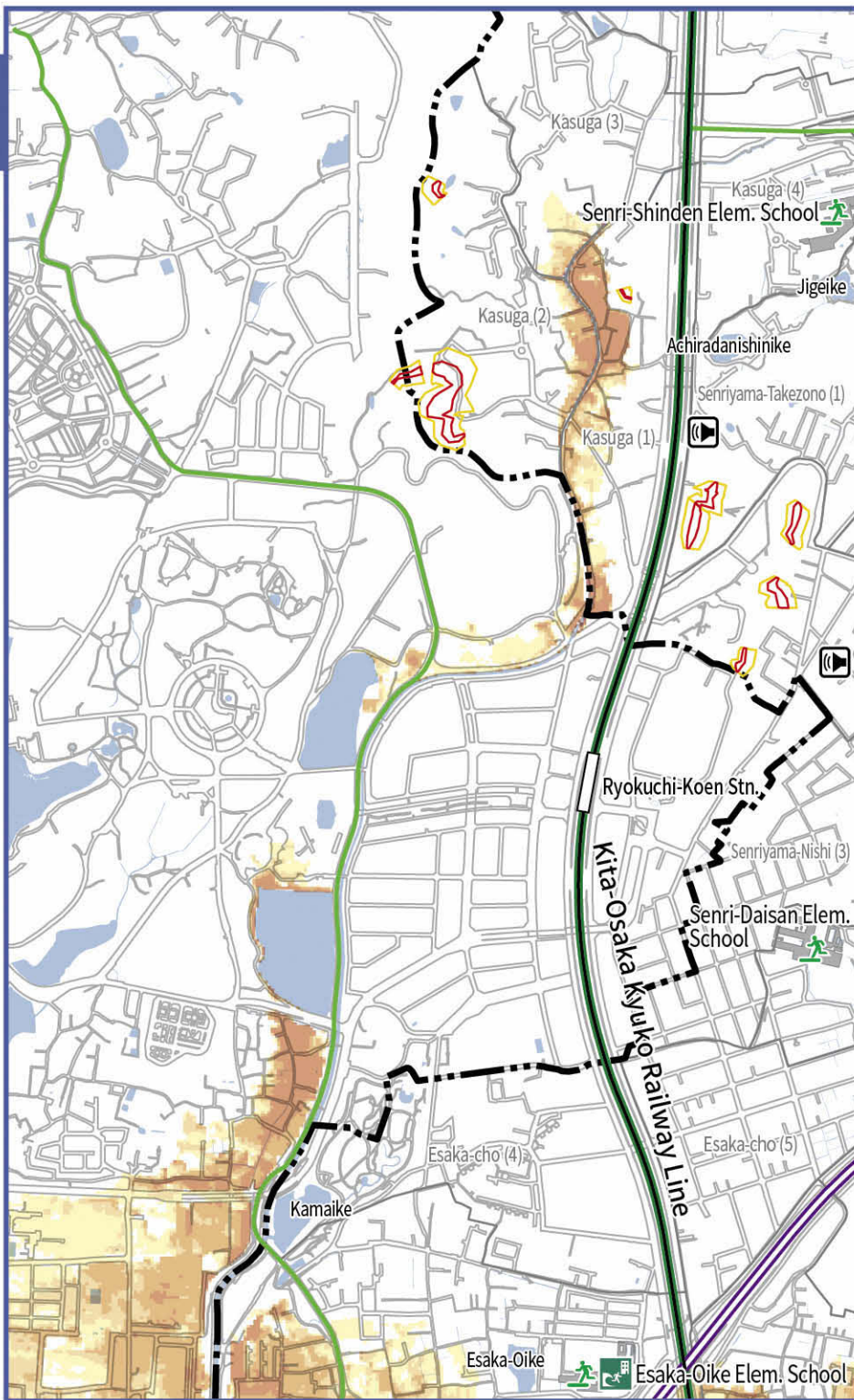


**LED lantern**

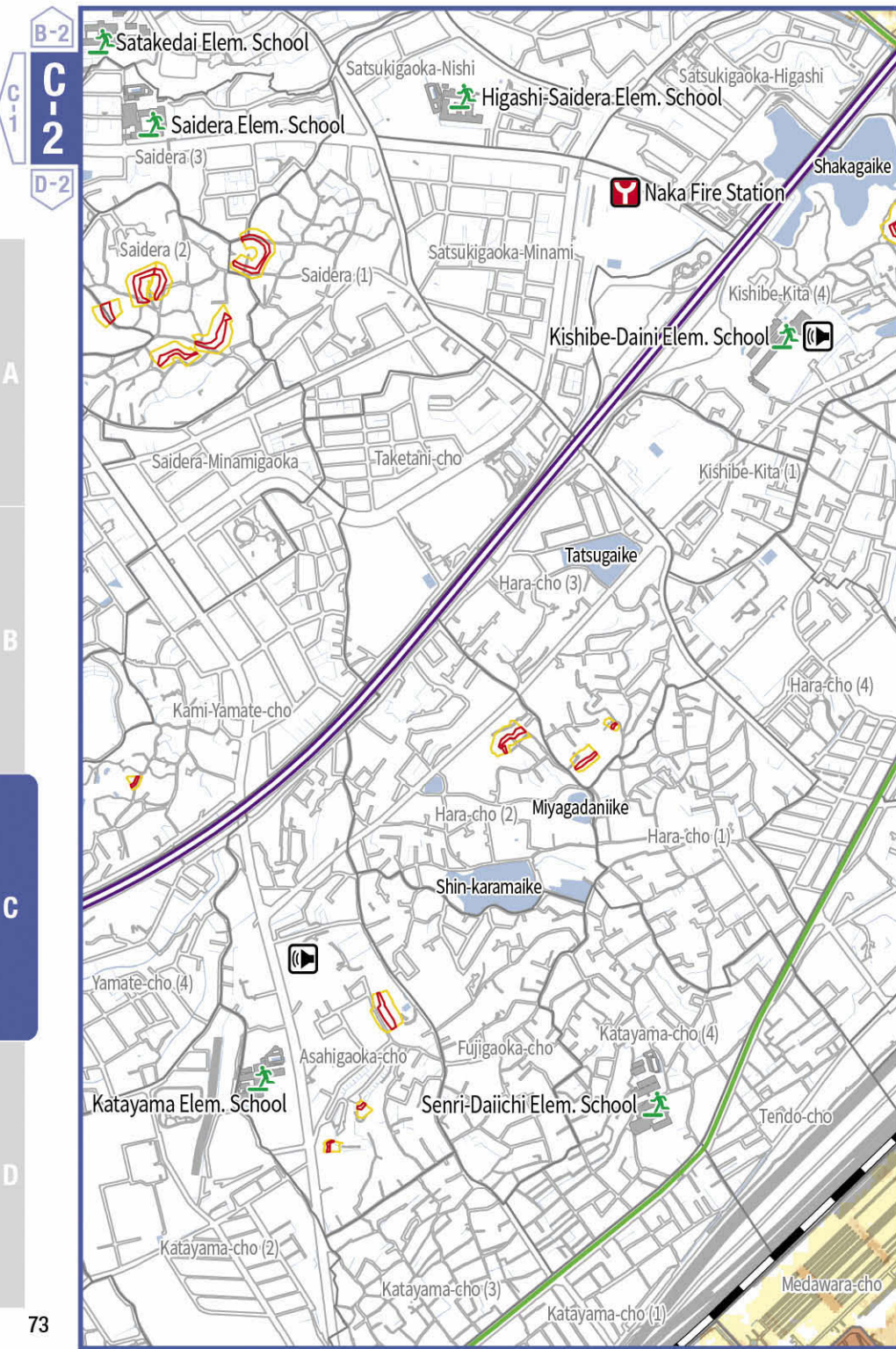


**Head-mounted light**  
Handy during nighttime work.

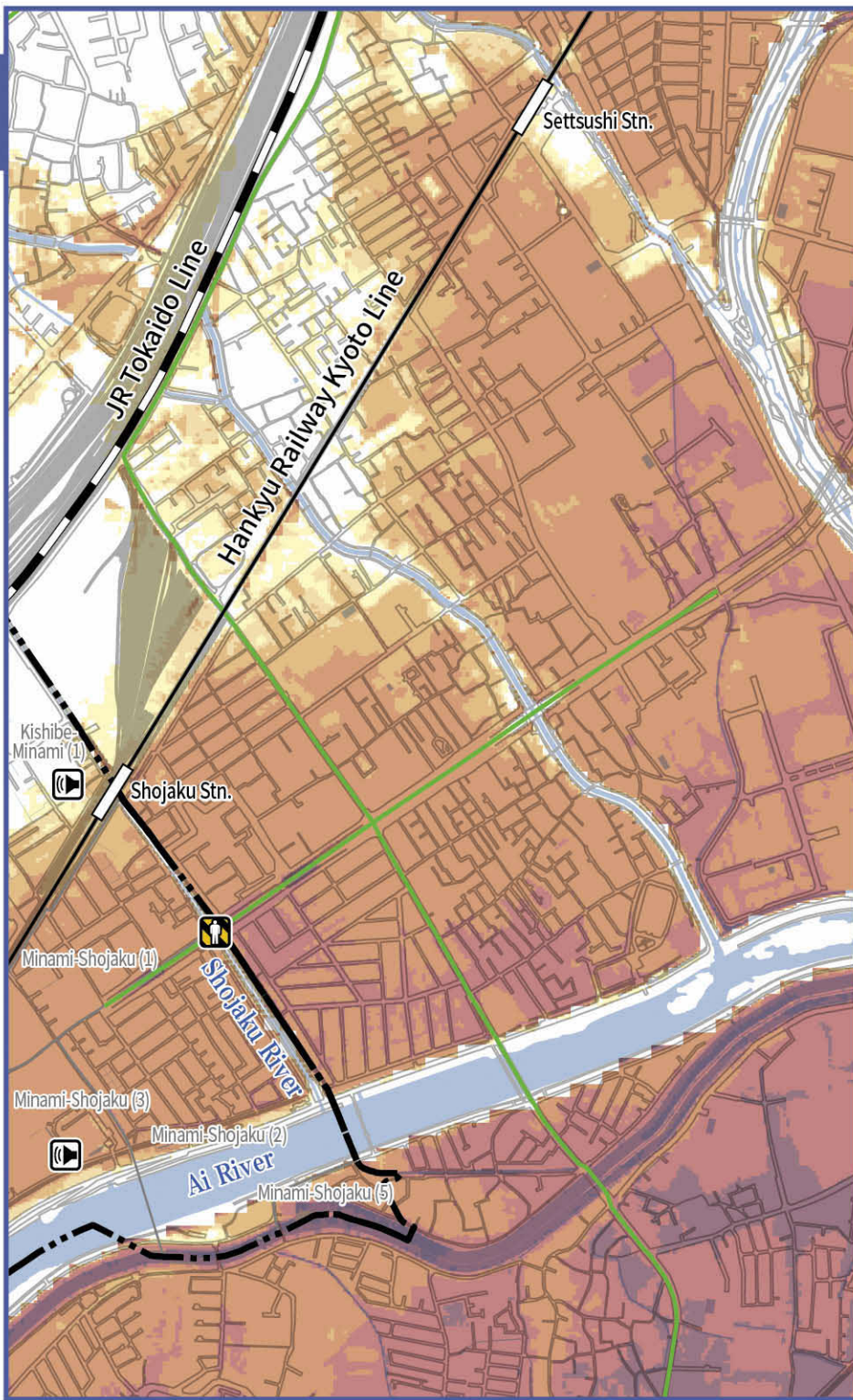








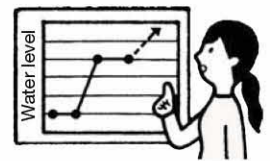




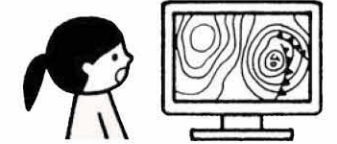
## PICK UP Prepare an evacuation plan.



Clearly specify who does what and when if a flood should occur.



The plan is really just for reference purposes since the actual circumstances should dictate your actions.



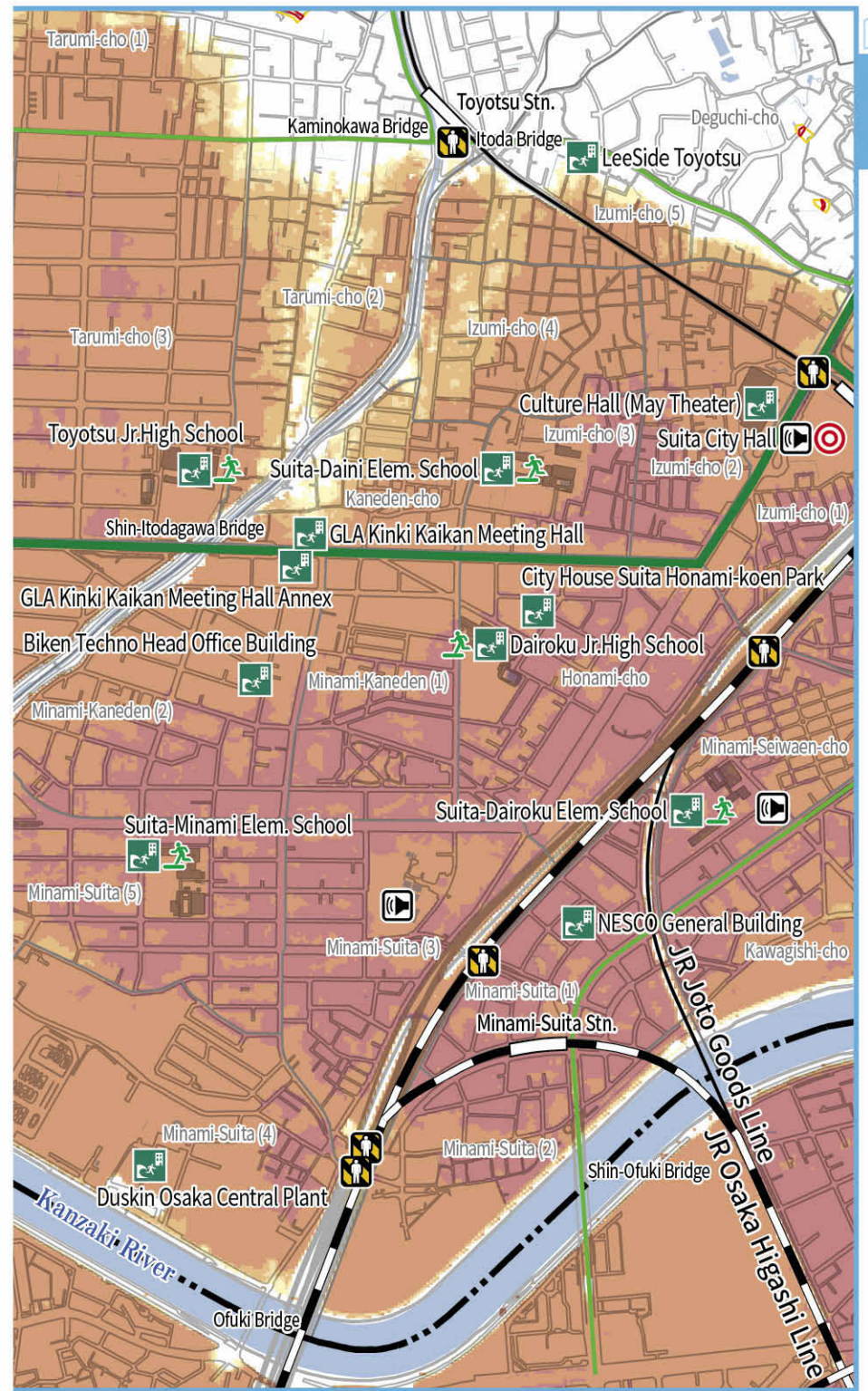
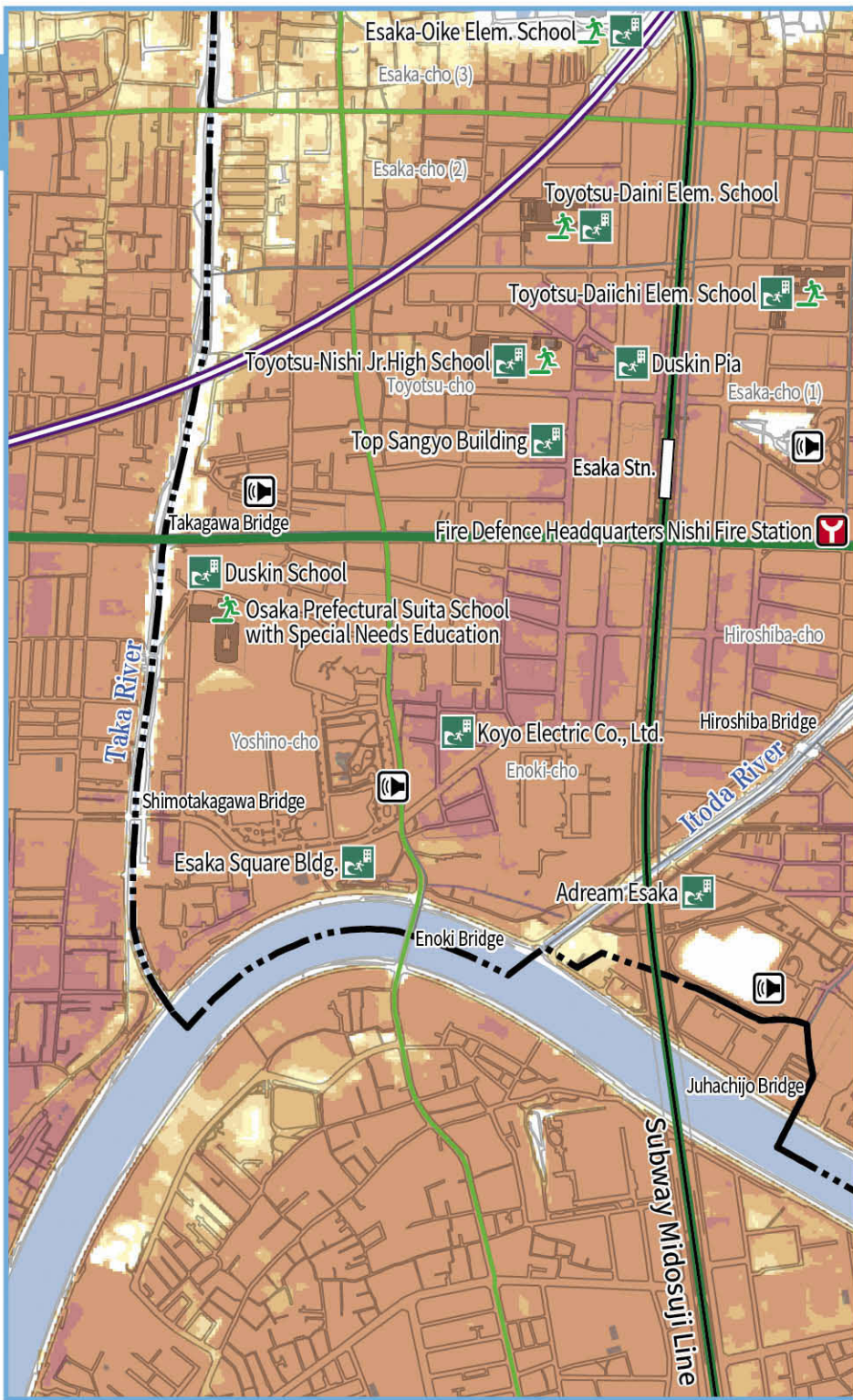
Sync with municipal and community plans if they exist.

### Example of a family evacuation plan for an approaching typhoon

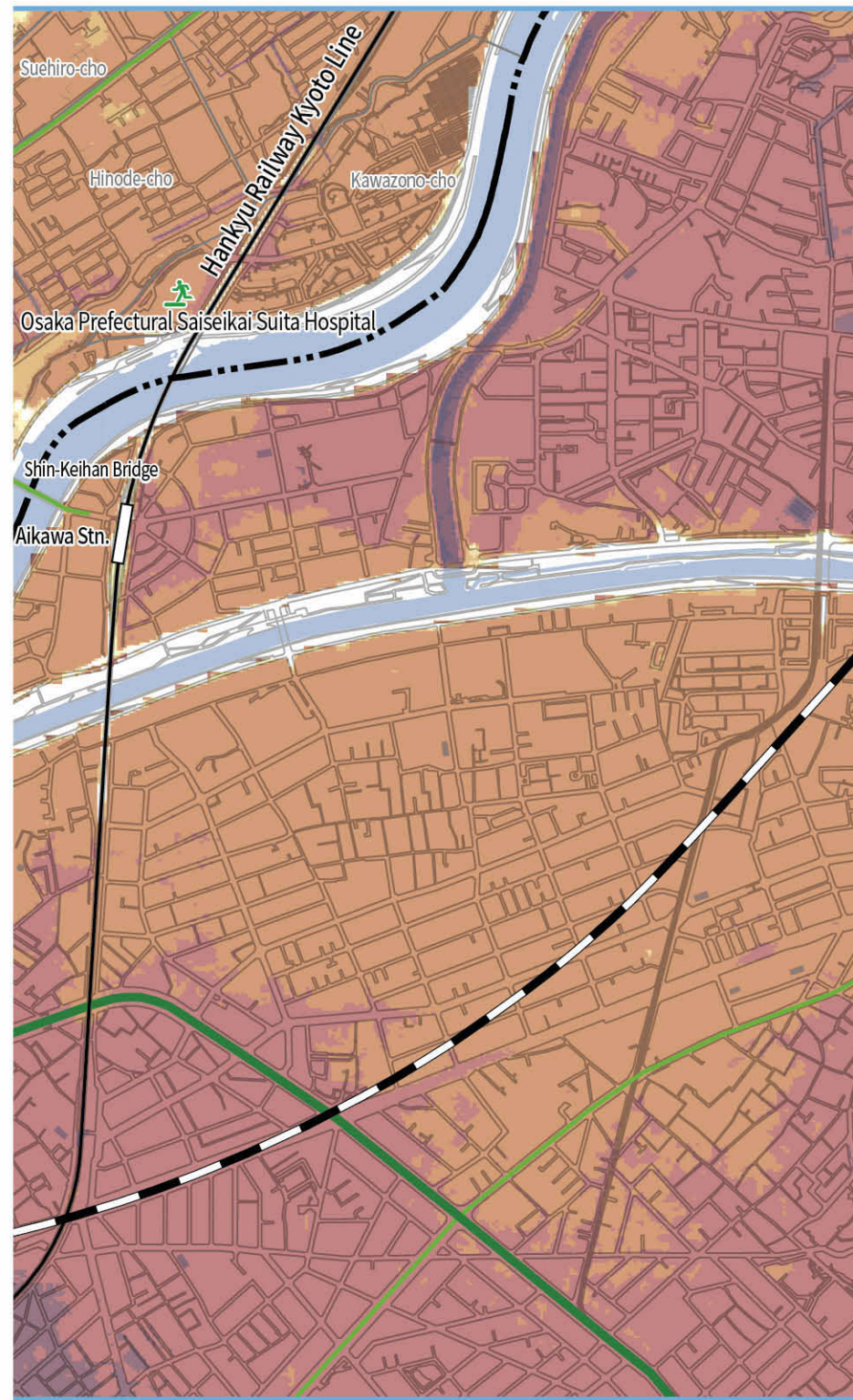
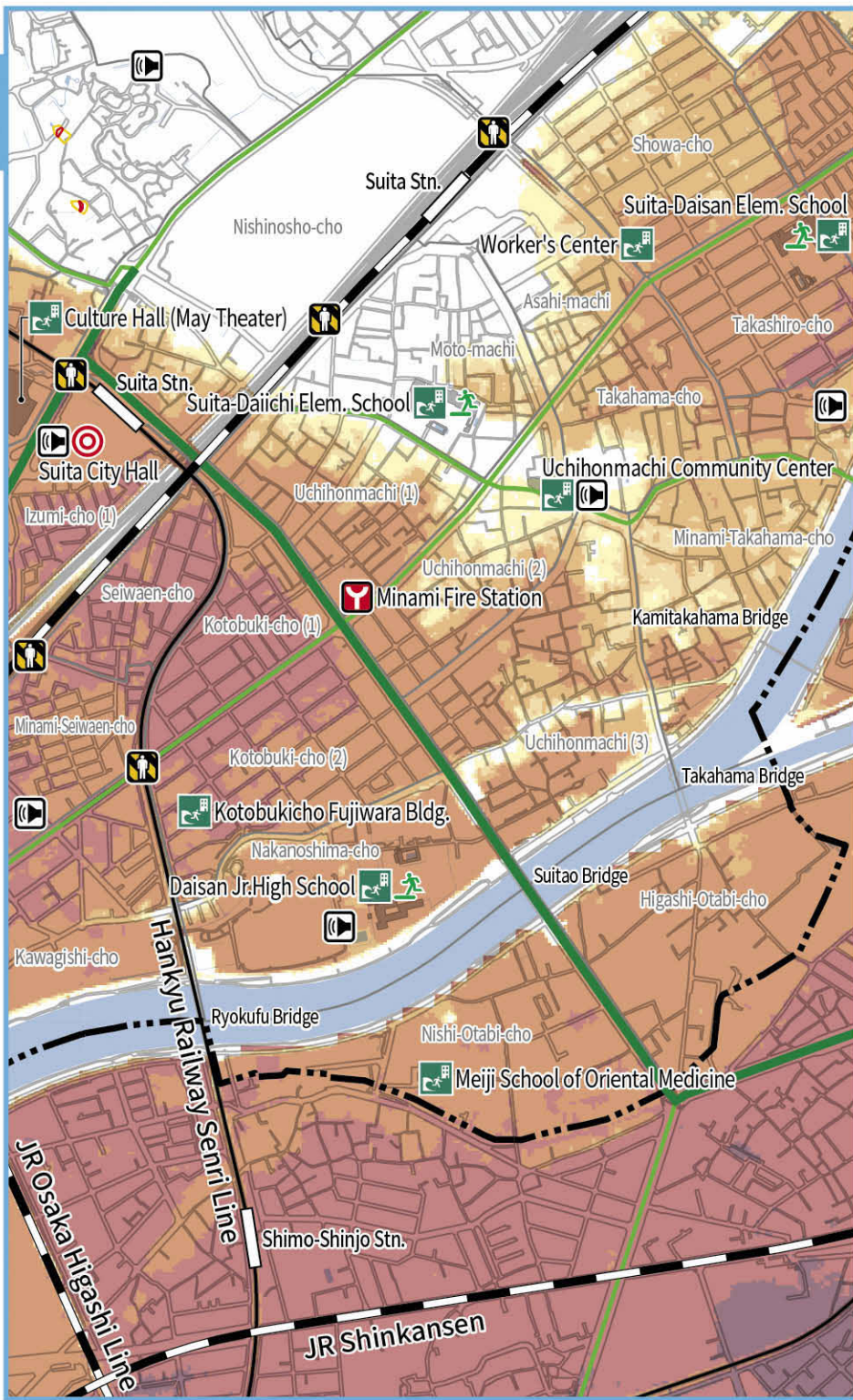
Days until landfall	Family action
3 days out	<ul style="list-style-type: none"> <li>All family members reconfirm where the evacuation shelter is.</li> <li>Monitor the typhoon's strength and track.</li> </ul>
2 days out	<ul style="list-style-type: none"> <li>Share typhoon information with neighbors.</li> <li>Check for hazards around the house, e.g., unsecured items on the balcony, etc.</li> <li>Check flooding risks on the hazard map.</li> <li>Check emergency supplies you keep at home and would take with you should you need to evacuate.</li> </ul>
1 day out	<ul style="list-style-type: none"> <li>Evacuate elderly persons.</li> <li>Monitor public emergency announcements.</li> </ul>
Few hours out	<ul style="list-style-type: none"> <li>Evacuate the family to the shelter.</li> </ul>
Imminent	<ul style="list-style-type: none"> <li>Ride out the typhoon at the shelter.</li> </ul>

Refuge  Elementary School Tel XXXX-XXXX Address -cho -chome -ban -go



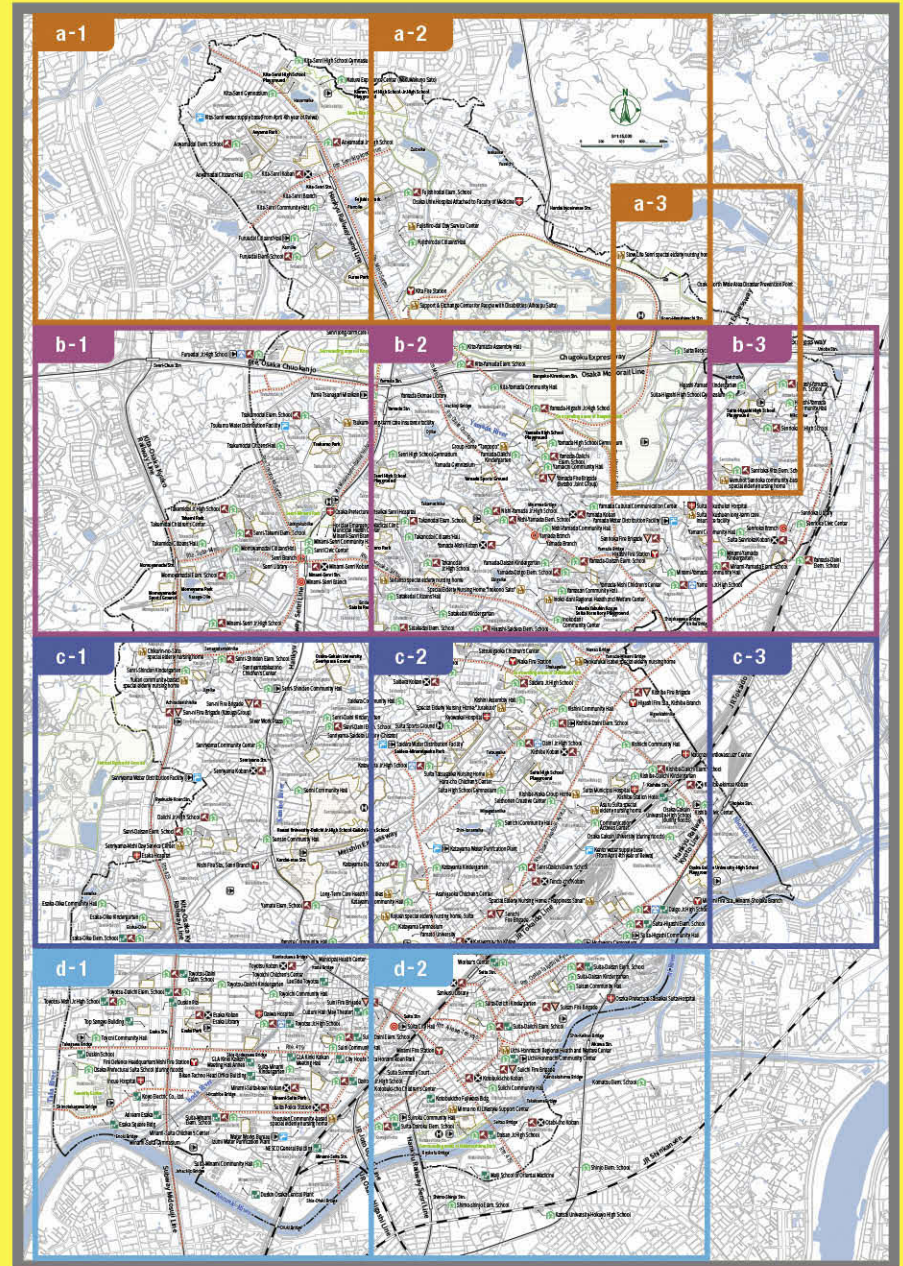








# Disaster Prevention Map



**Legend of facilities etc.**

- Temporary evacuation site
- Wide-area evacuation site
- Evacuation shelters
- Buildings for evacuation in the event of tsunamis & floods
- Welfare evacuation shelters
- Yards for stocking rescue equipment
- Fire stations & outposts
- Fire brigades
- Police stations & police boxes
- City Hall and city government outposts
- Heliports for use in times of disaster
- Disaster-prevention administrative wireless system (loudspeakers)
- Disaster medical institutions
- Water supply points for use in times of disaster
- Medical aid stations

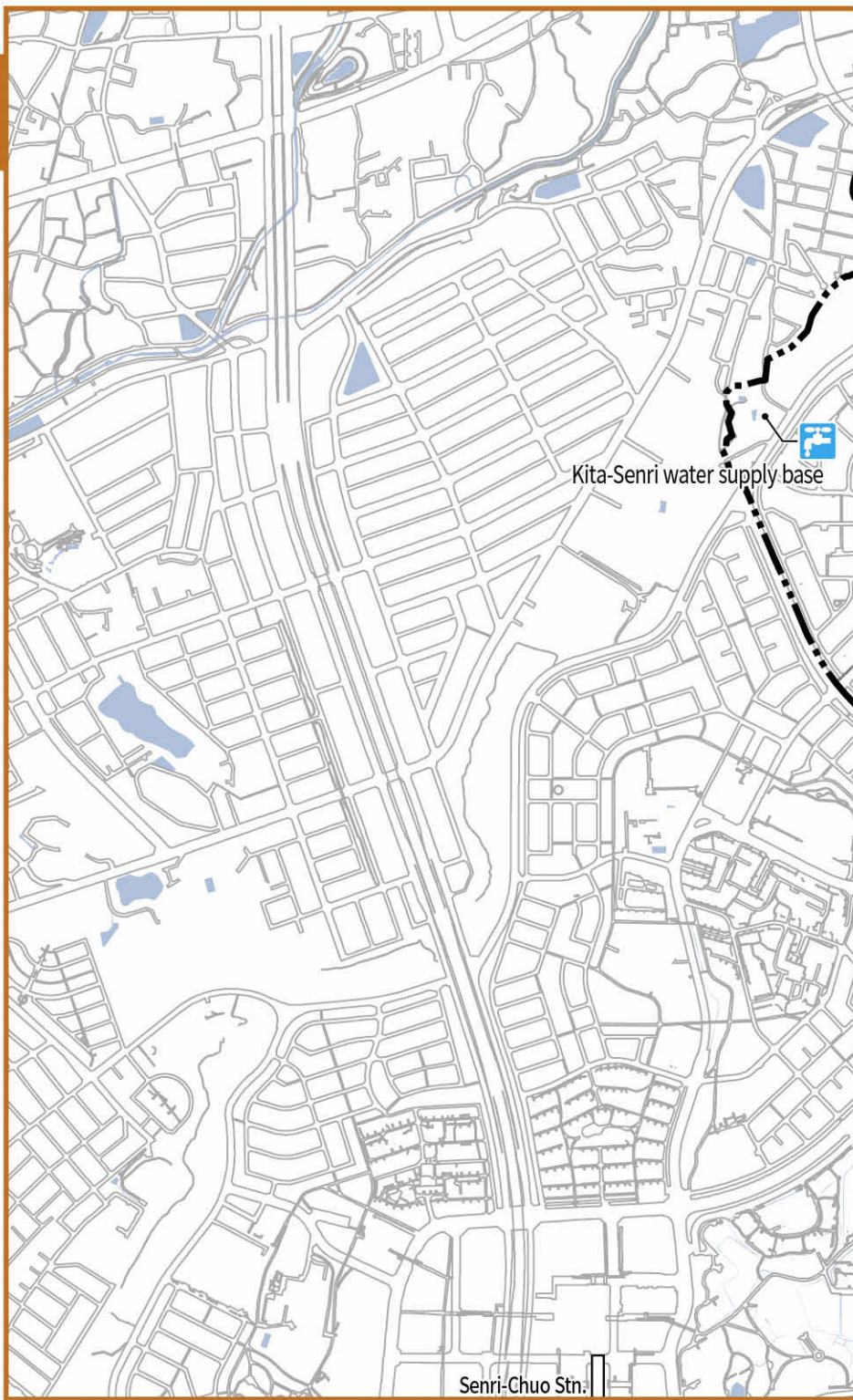
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- Railways & monorails
- Evacuation routes (roads with a width of at least 10 m)

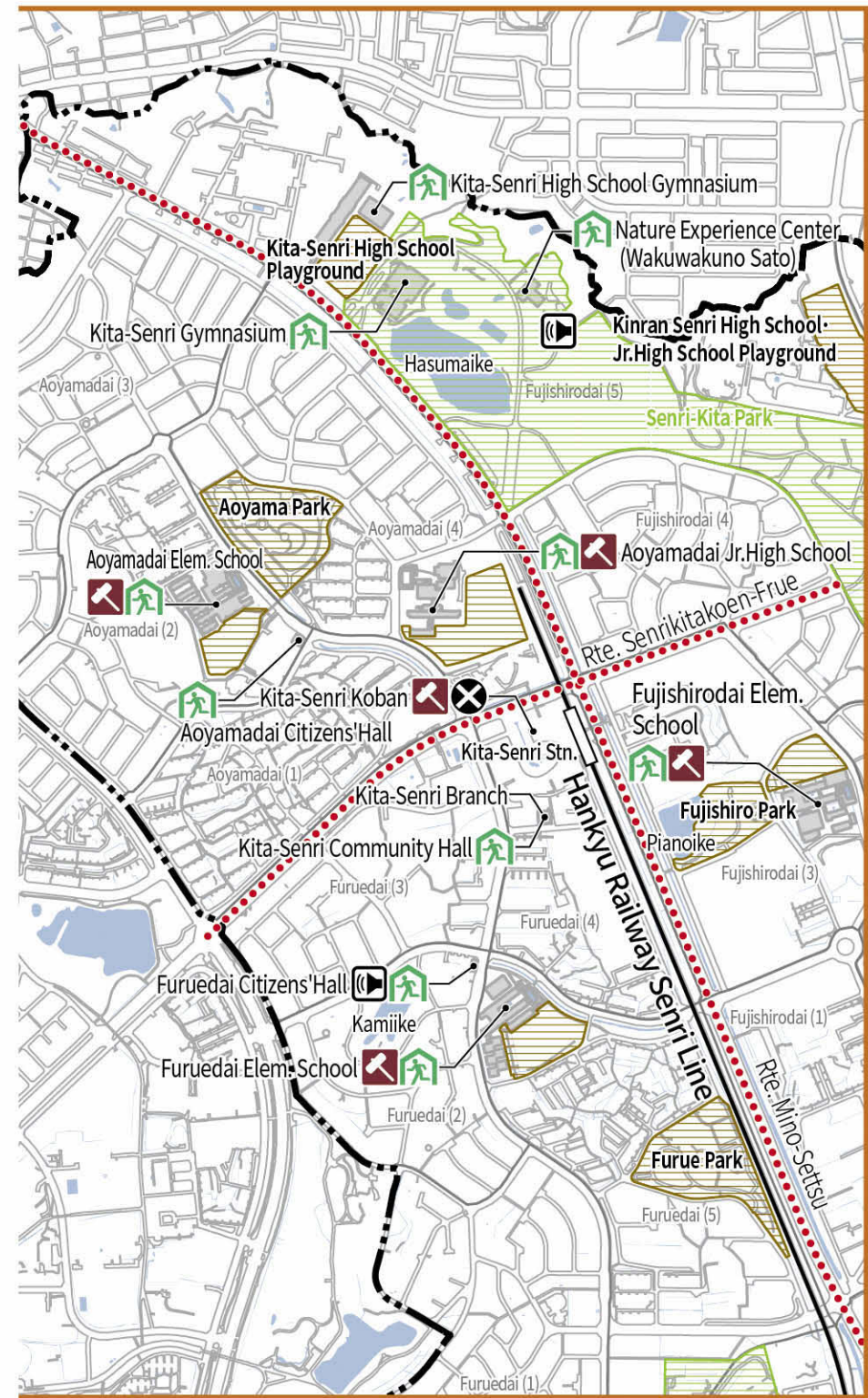
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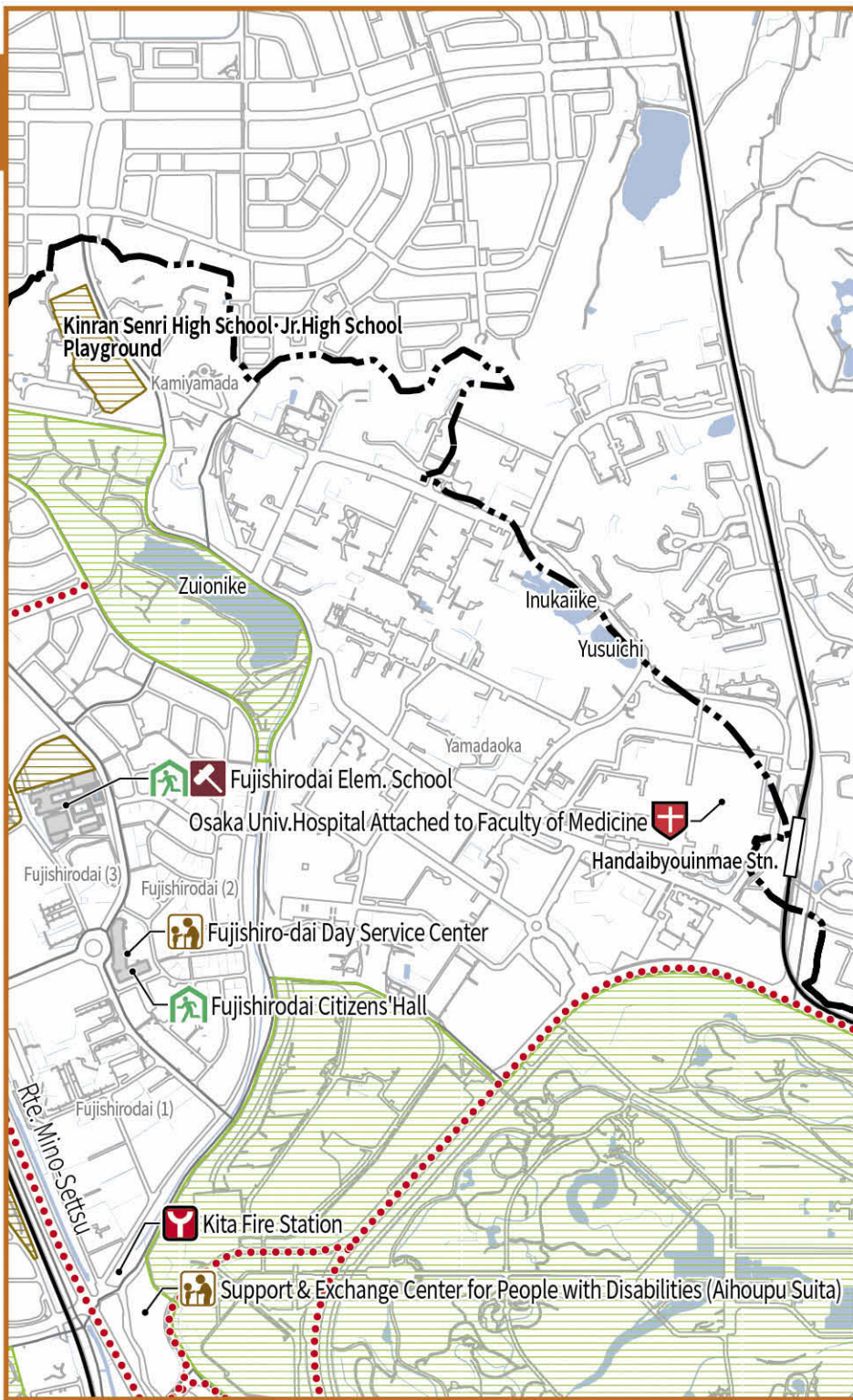




Senri-Chuo Stn.





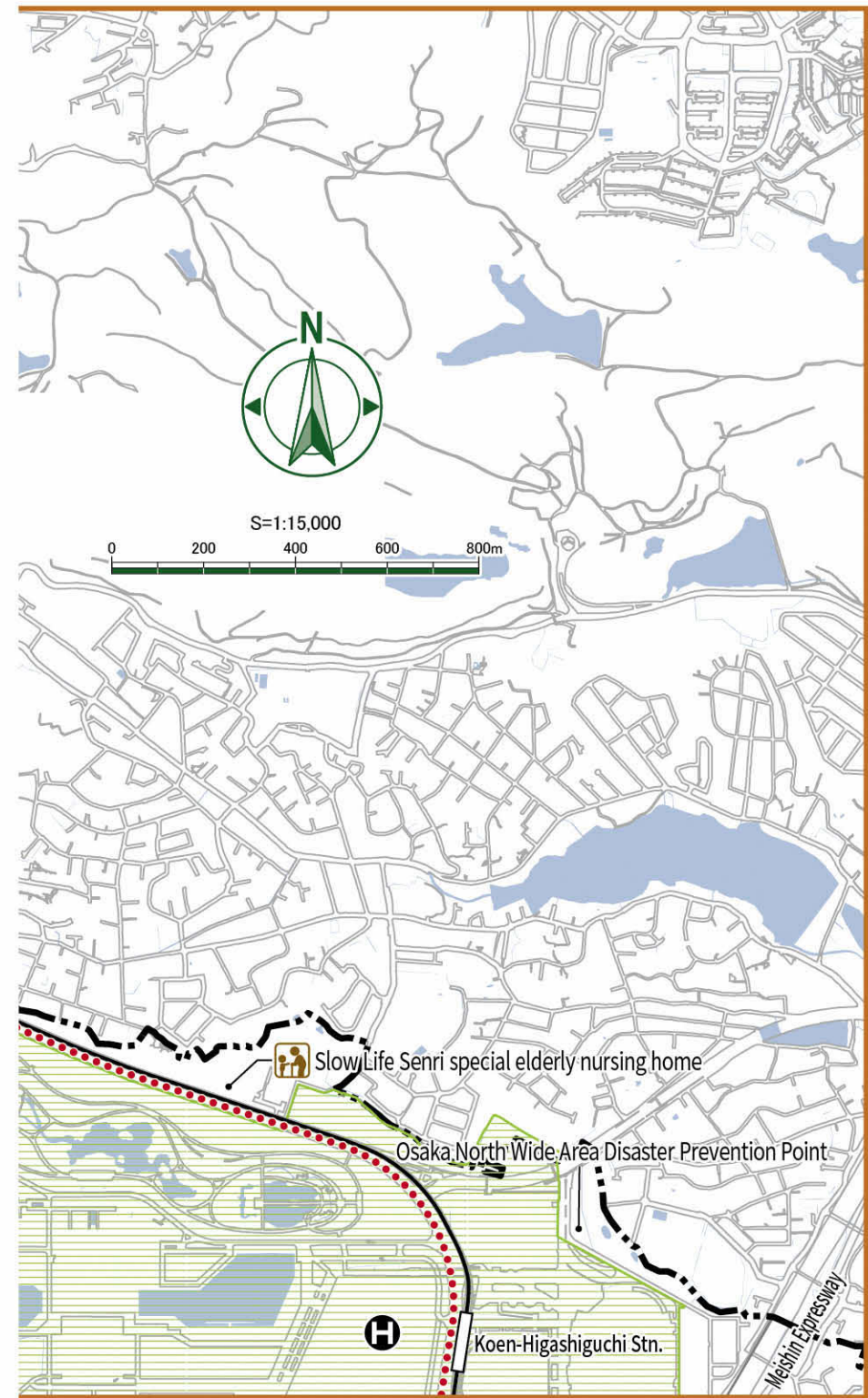


a

b

c

d



a

b

c

d



a-3

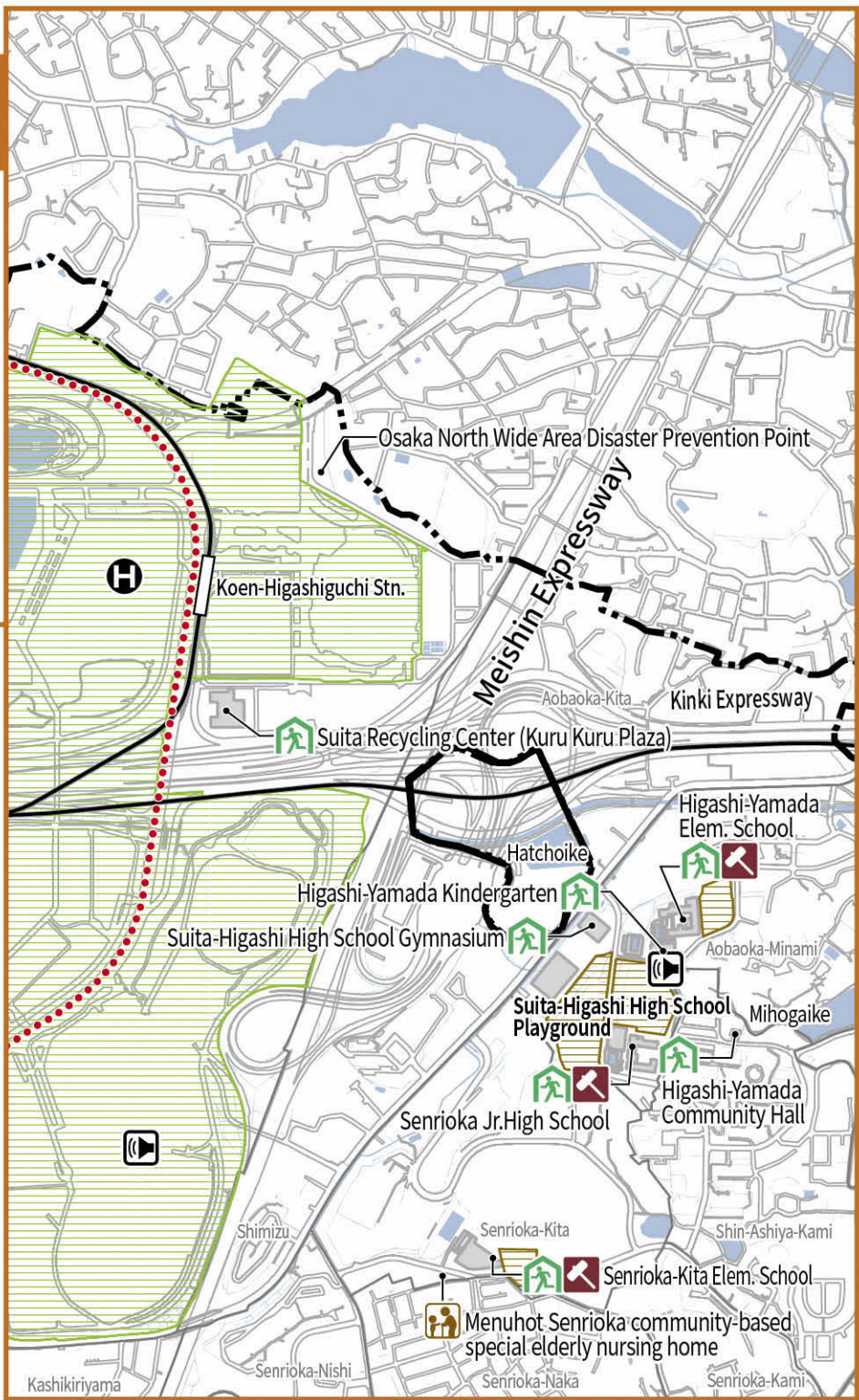
a-2

b-2

b-2

b-3

b-3



Q

What hazards are there in the house?

A

Furniture could topple over and injure someone or block entrance/exit ways.



Q

What should we have ready just in case a disaster occurs?

A

Prepare what you need to survive for a few days without electricity, gas and water, as well as supplies you can carry in the event you need to evacuate.



[From a survey of Suita residents]



Percentage of population that has prepared emergency drinking water  
57.3%



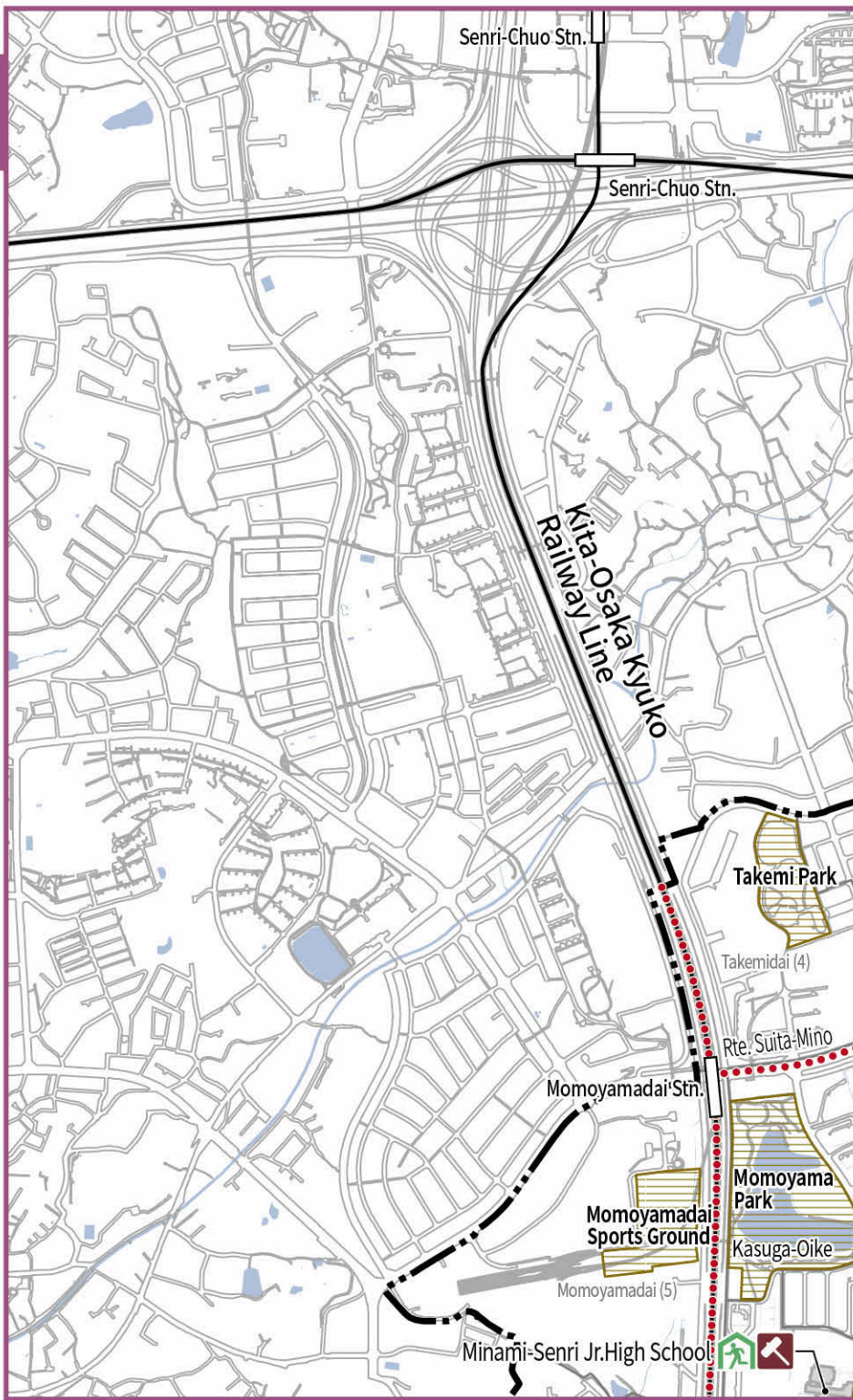
Percentage of population that has prepared emergency food supplies  
45.0%



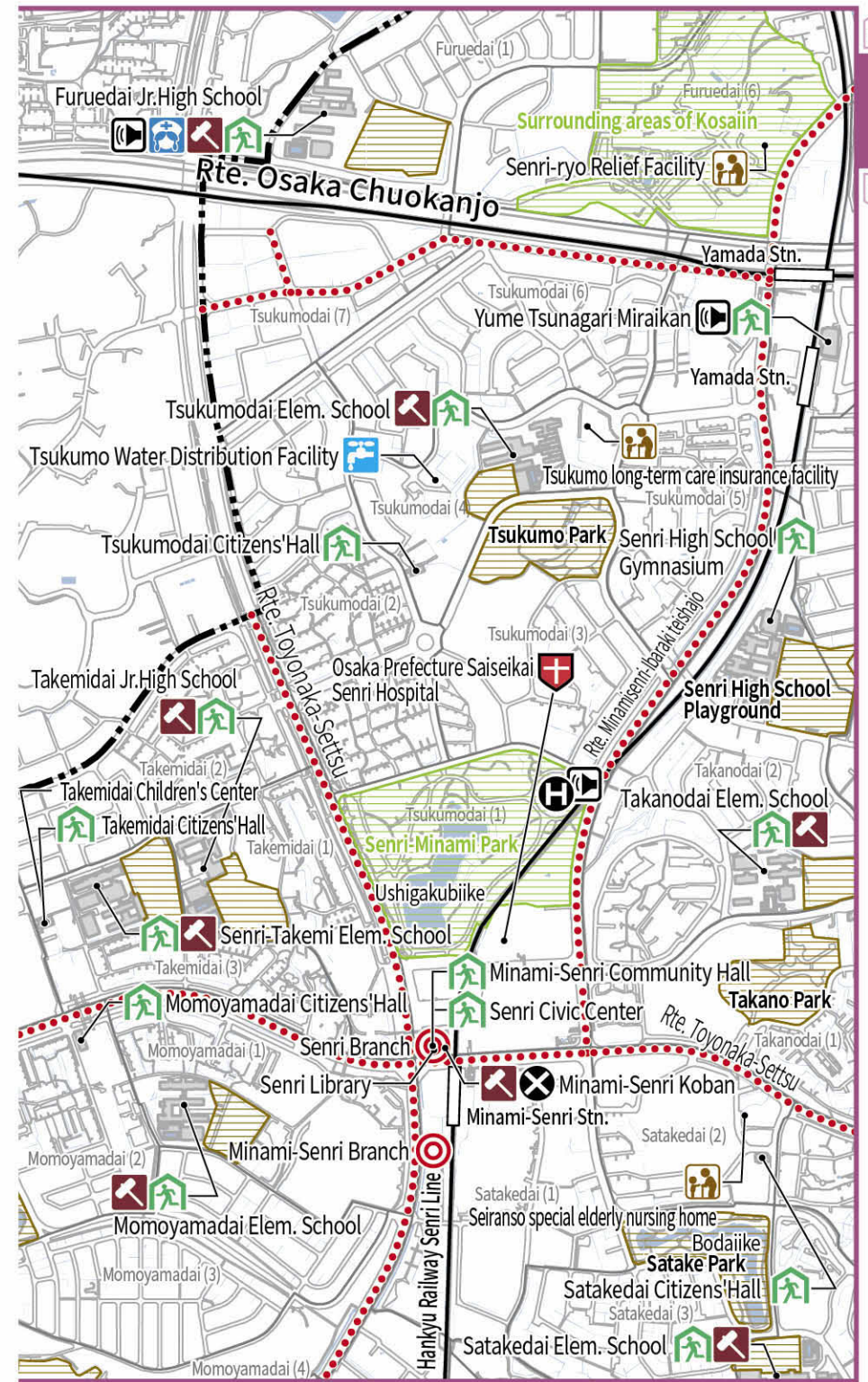
Percentage of population that has prepared an evacuation bag of emergency supplies  
34.9%



a-1  
b-1  
c-1



a-1  
b-1  
b-2  
c-1



a

b

c

d

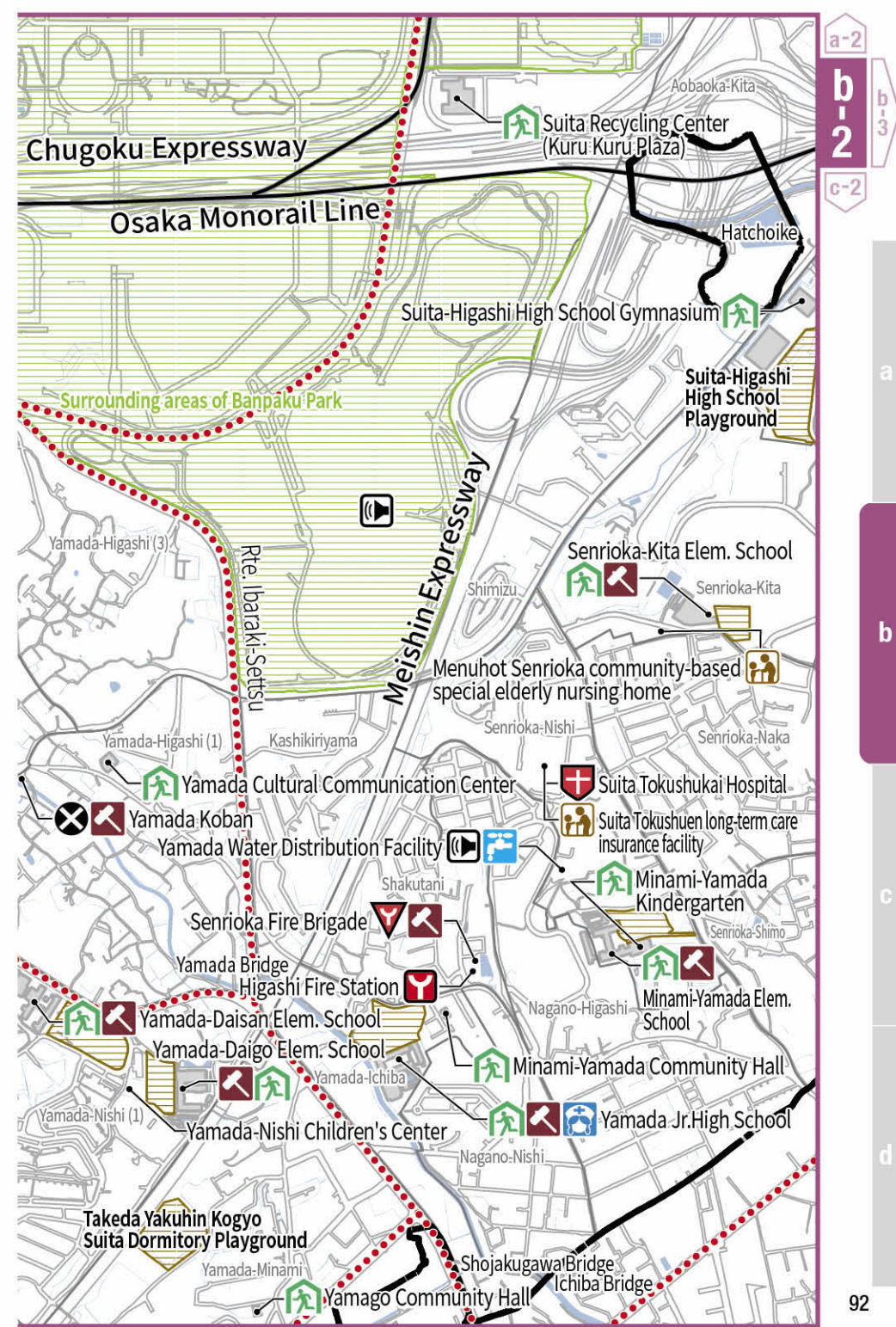
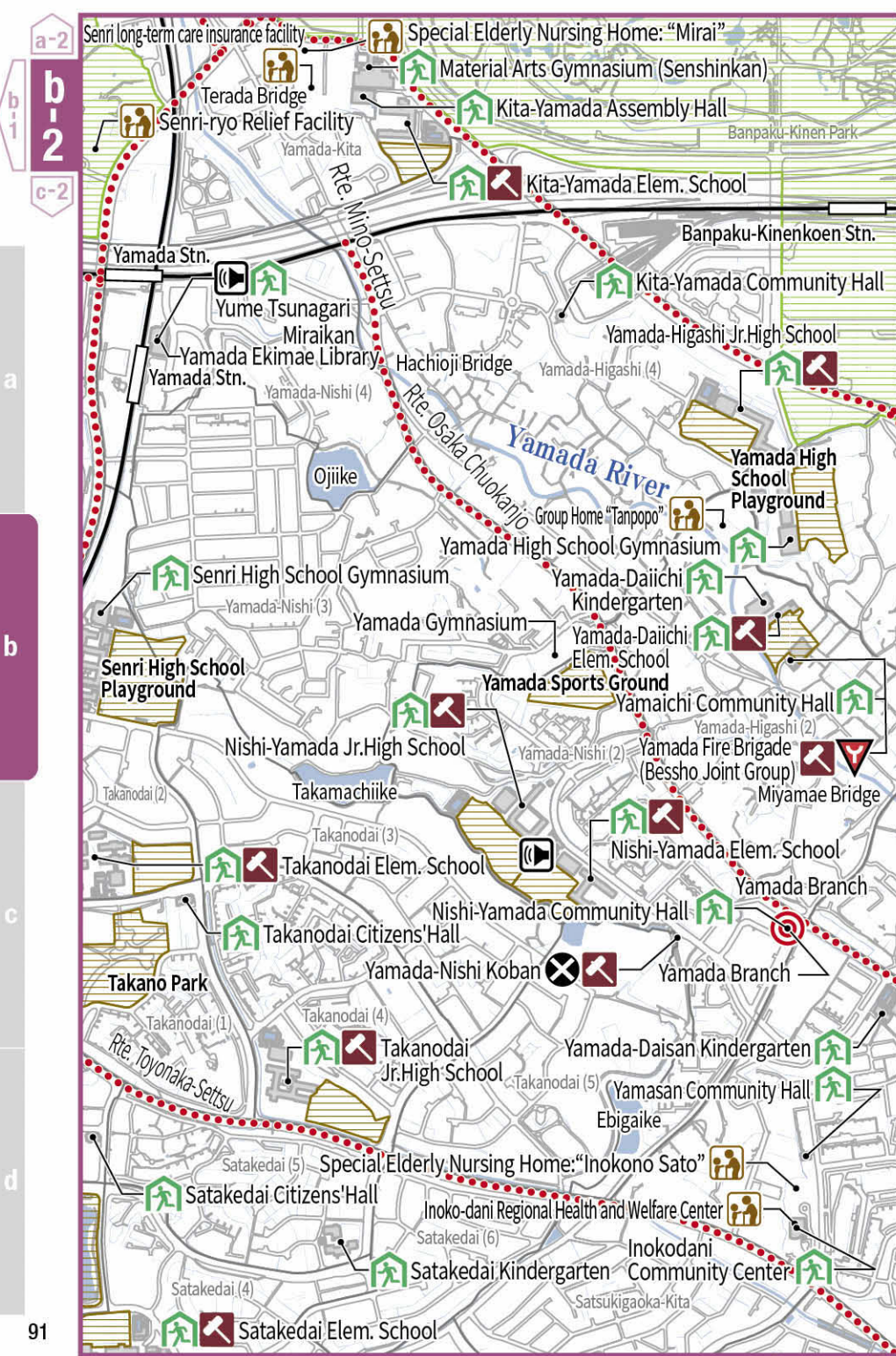
a

b

c

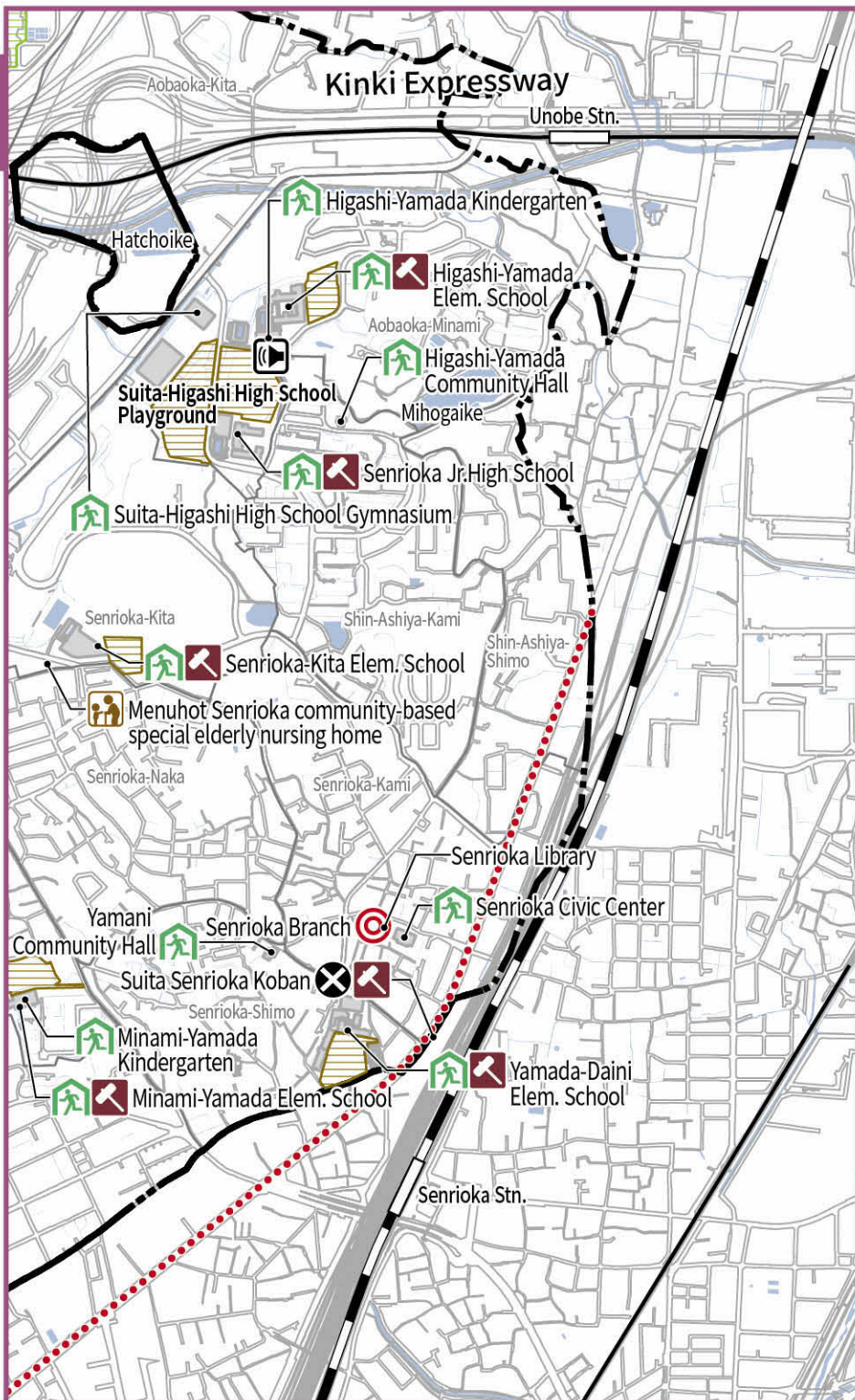
d







a-3  
b-3  
c-3



Q

Should we refrain from using the toilet?

A

No one can refrain from going to the bathroom, therefore prepare an emergency toilet.



Q

What should I wear if evacuating?

A

Dress so that as little skin as possible is exposed to avoid injury from debris, and wear comfortable shoes.



Q

How can family members contact each other?

A

Determine how to communicate and where to meet in an emergency ahead of time.



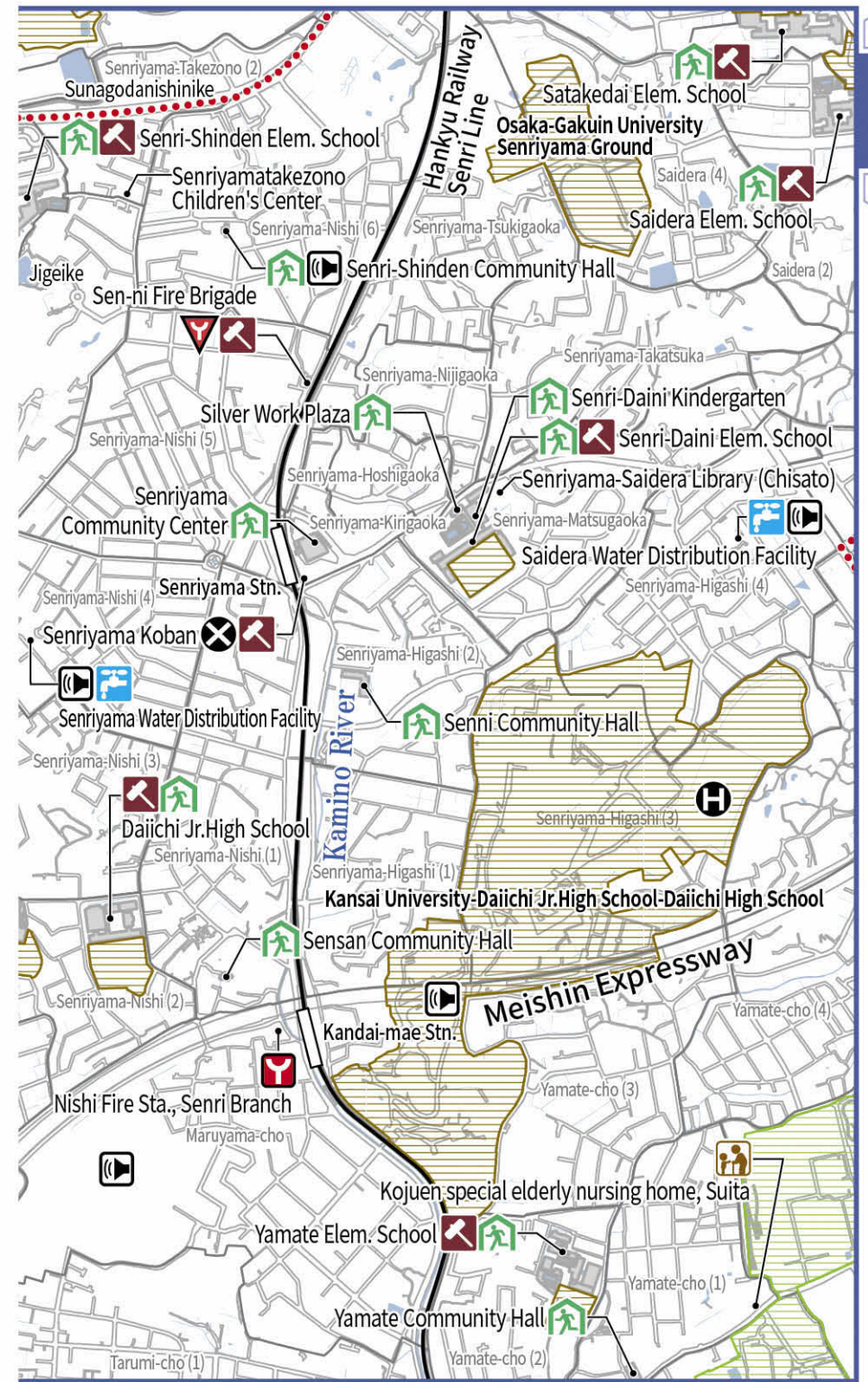
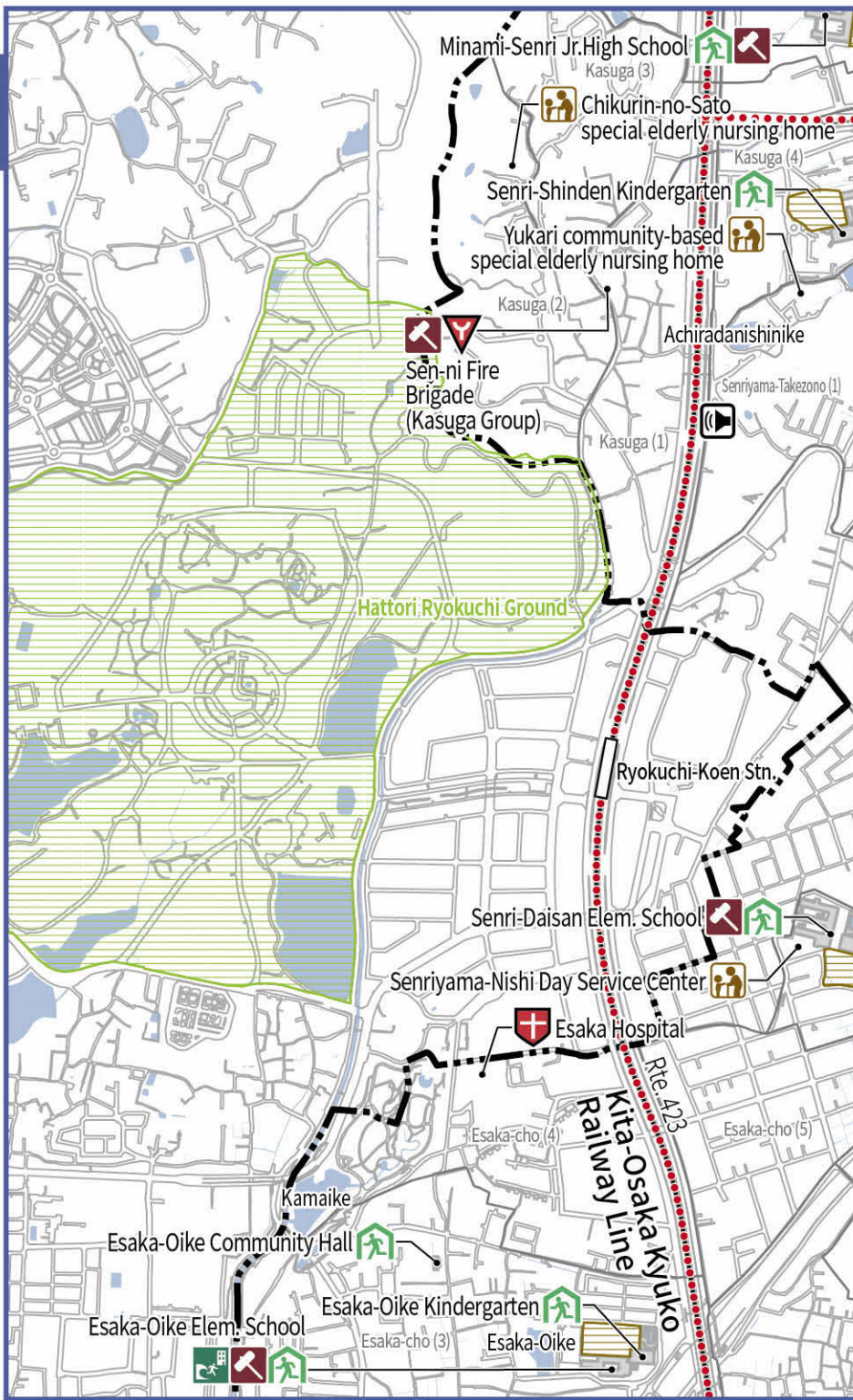
a

b

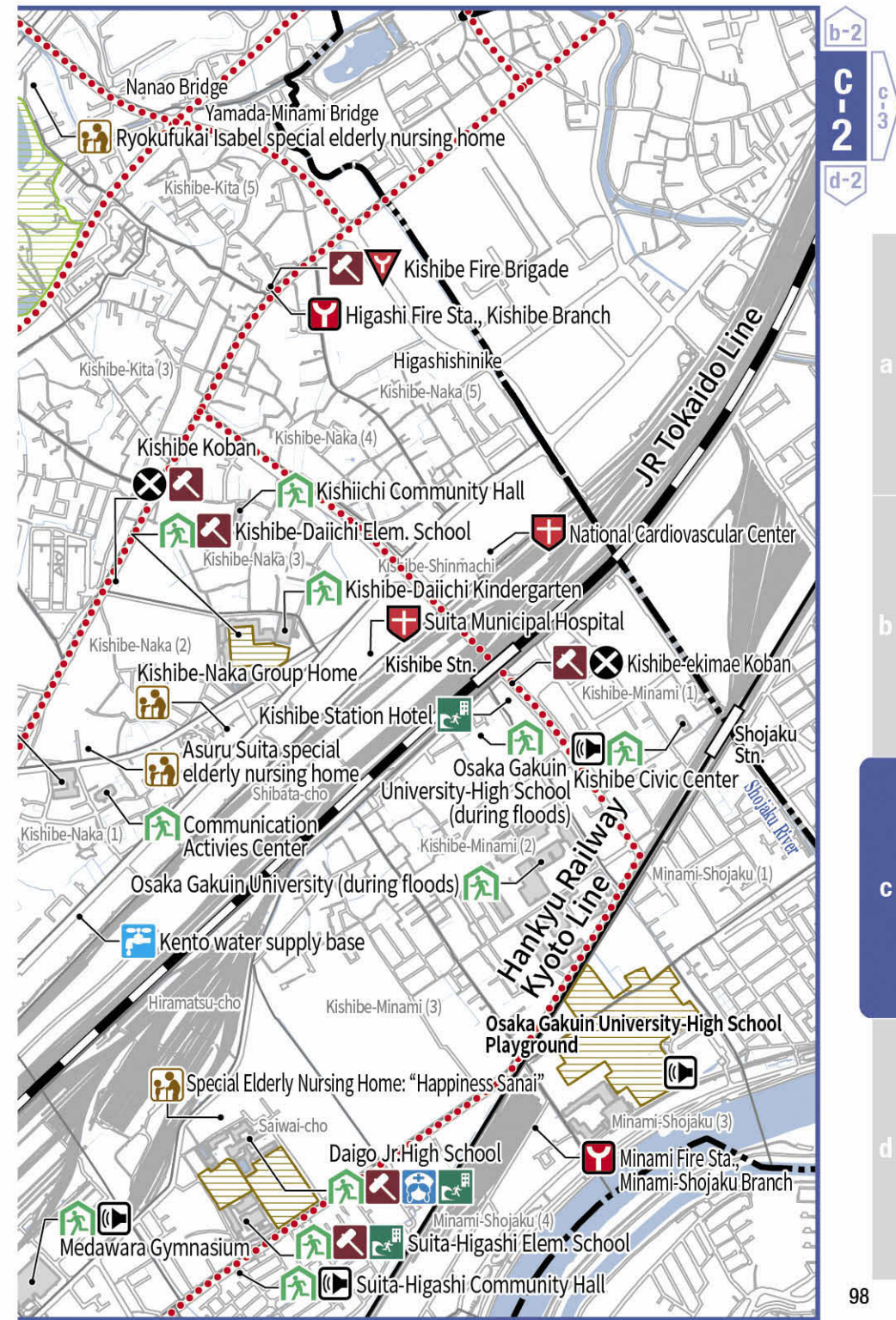
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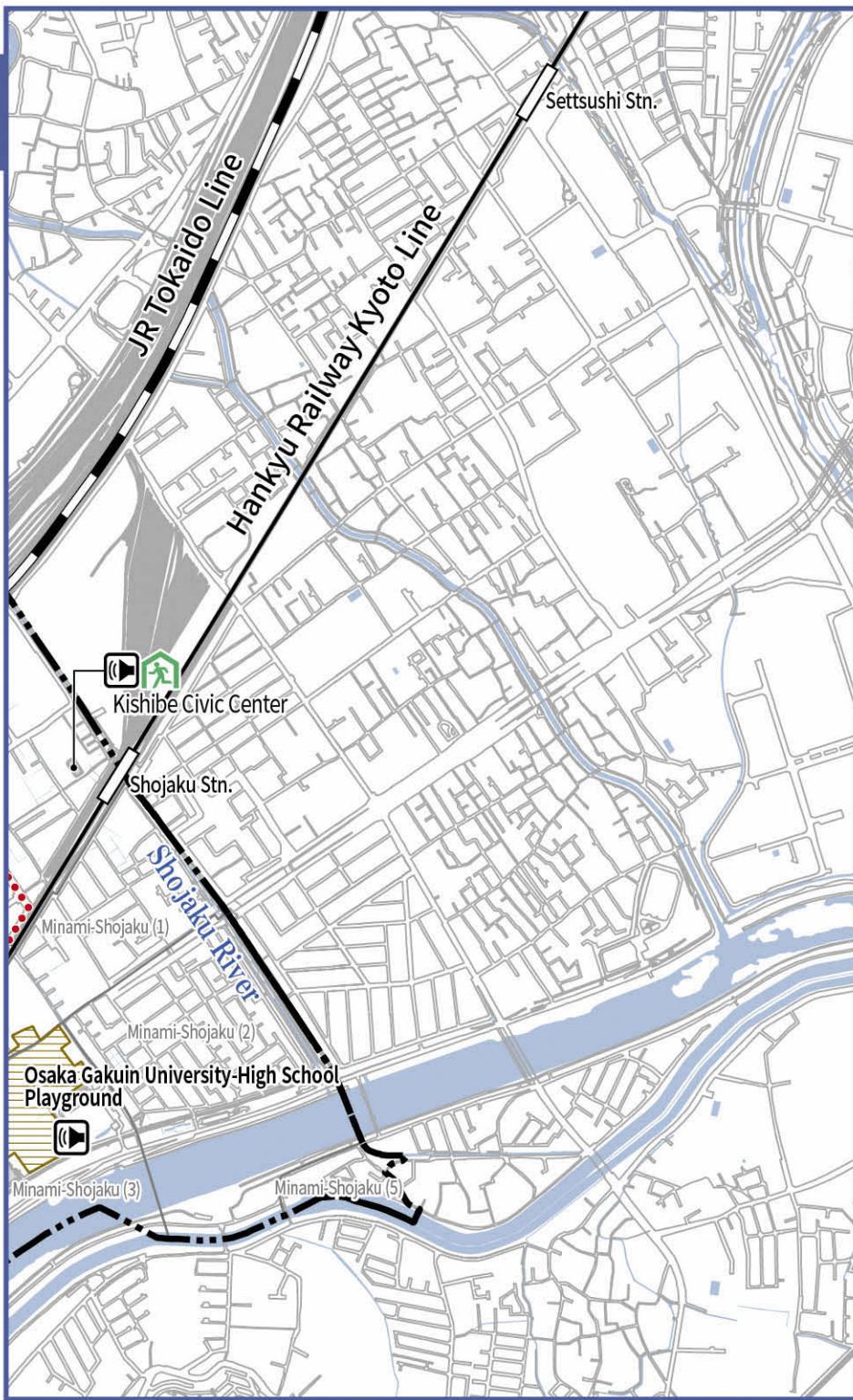










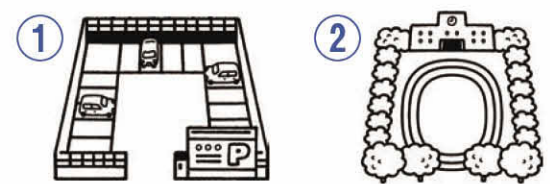


# Q

What should I do after the swaying stops if an earthquake hits while I'm at home?

- ① Relocate to a spacious parking lot nearby.
- ② Relocate to your designated temporary evacuation site.
- ③ Relocate to a refuge shelter for the time being.

# A

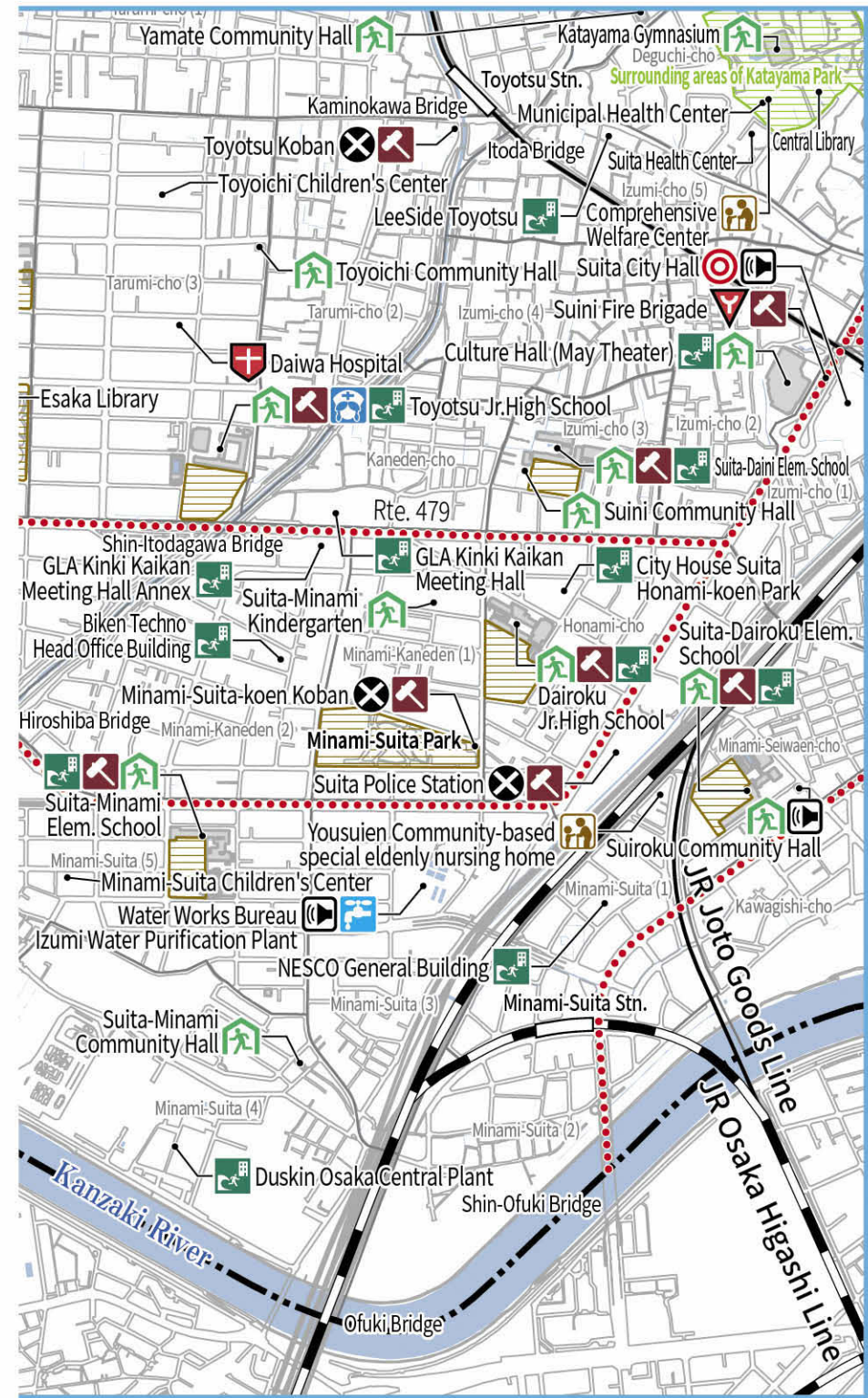
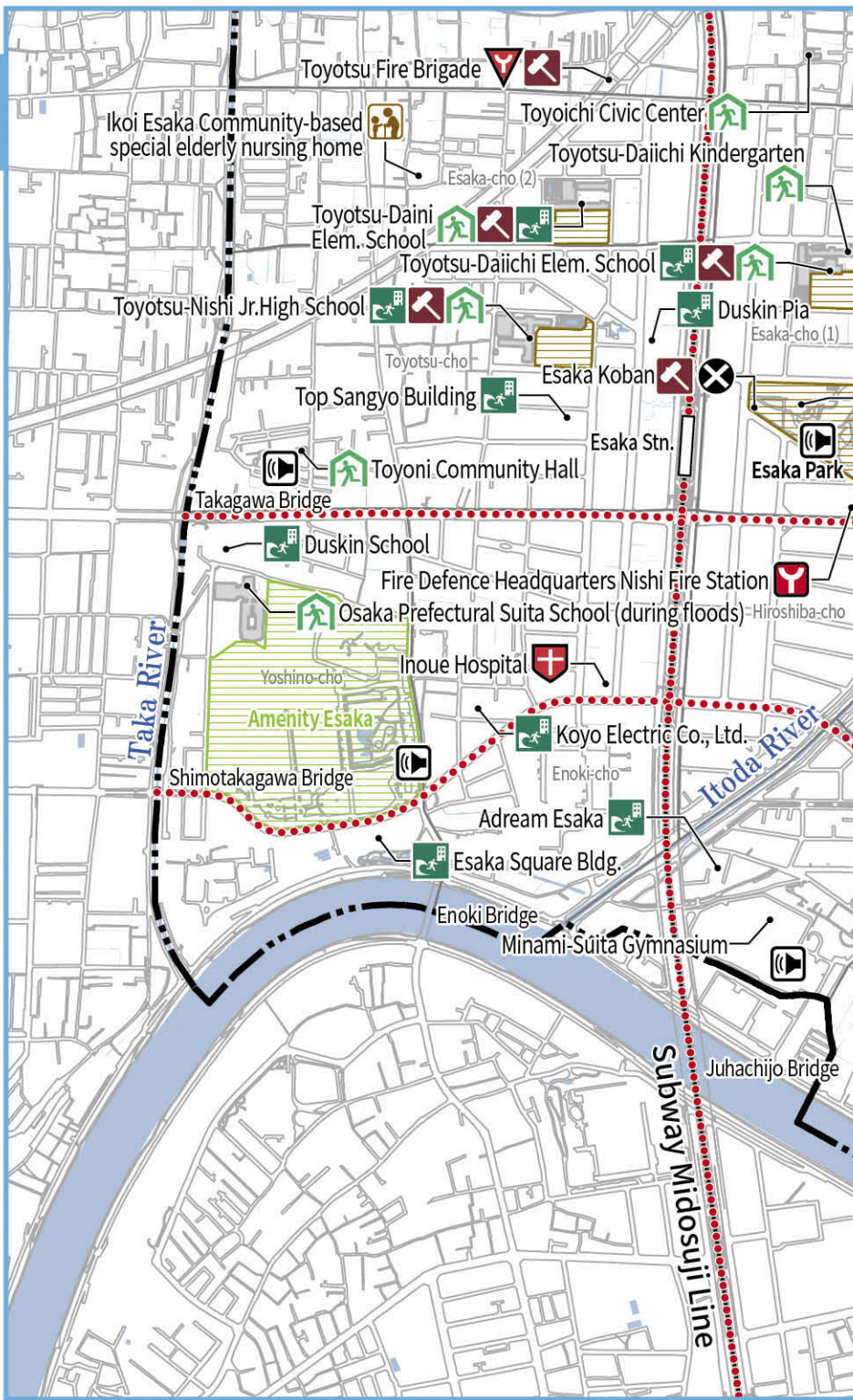


Relocate to your temporary evacuation site or an open area, all the while watching out for aftershocks.

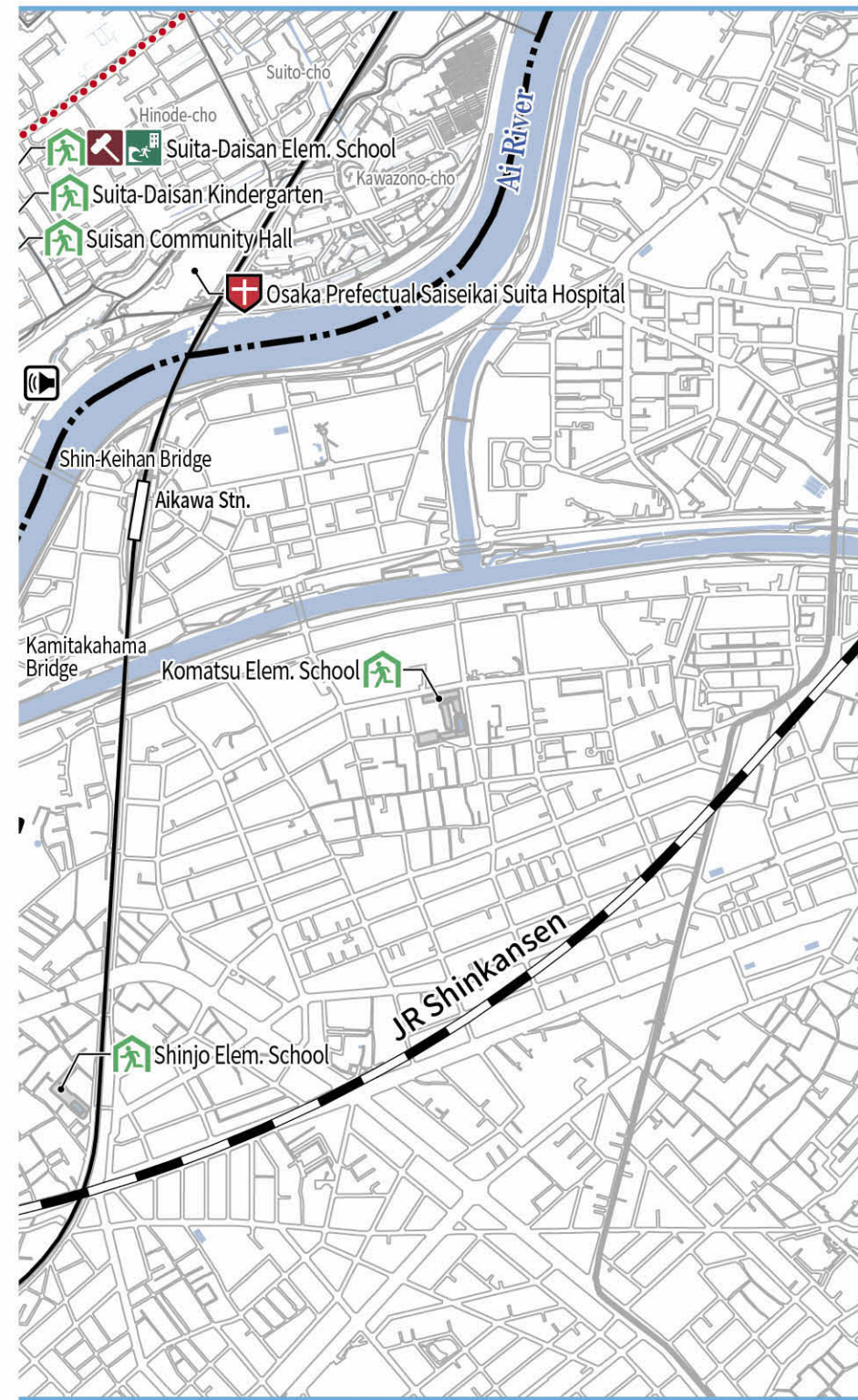
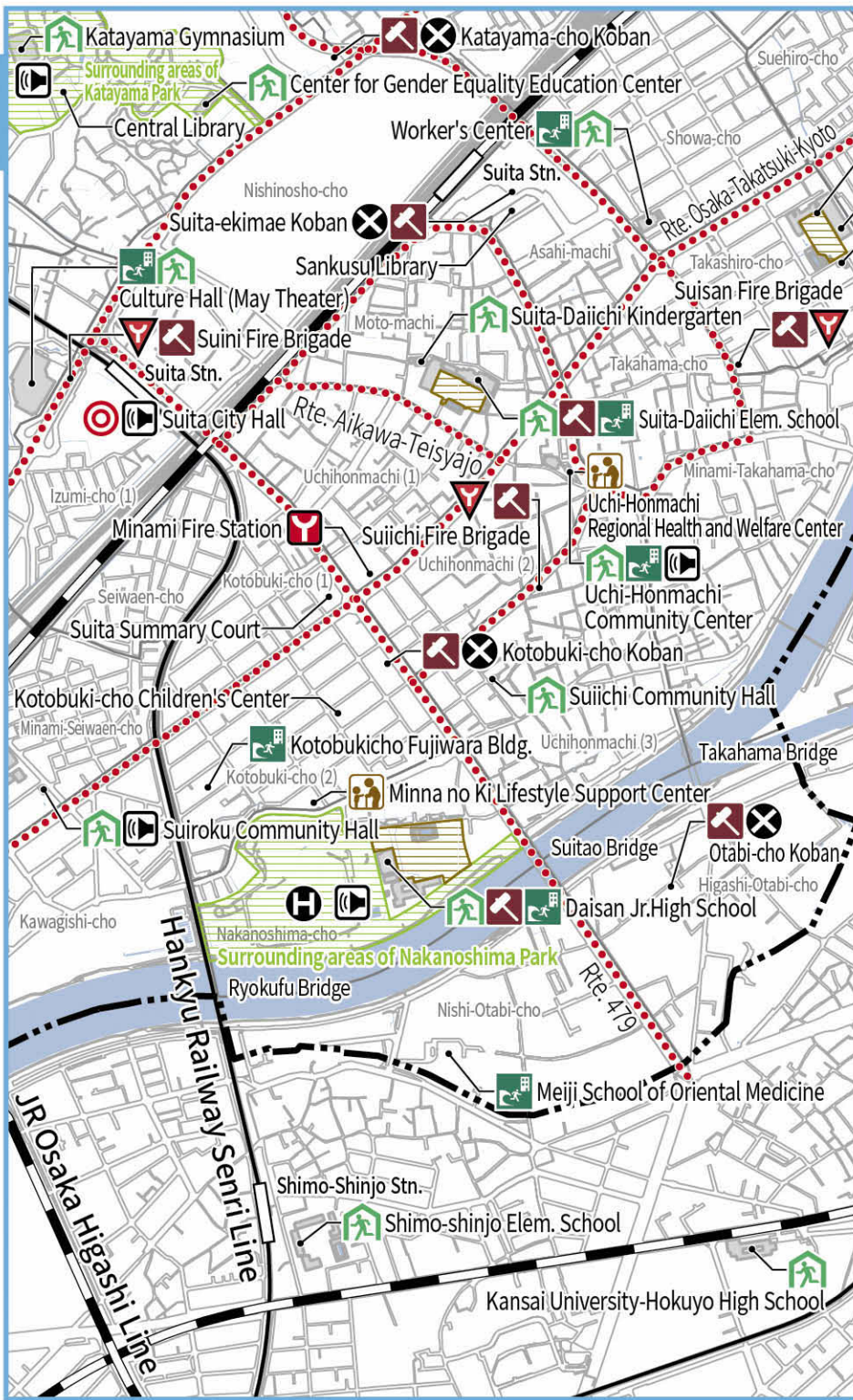
Refuge shelters are not opened right away. If you cannot live at home, go to the refuge shelter.













# Storm Surge Hazard Map

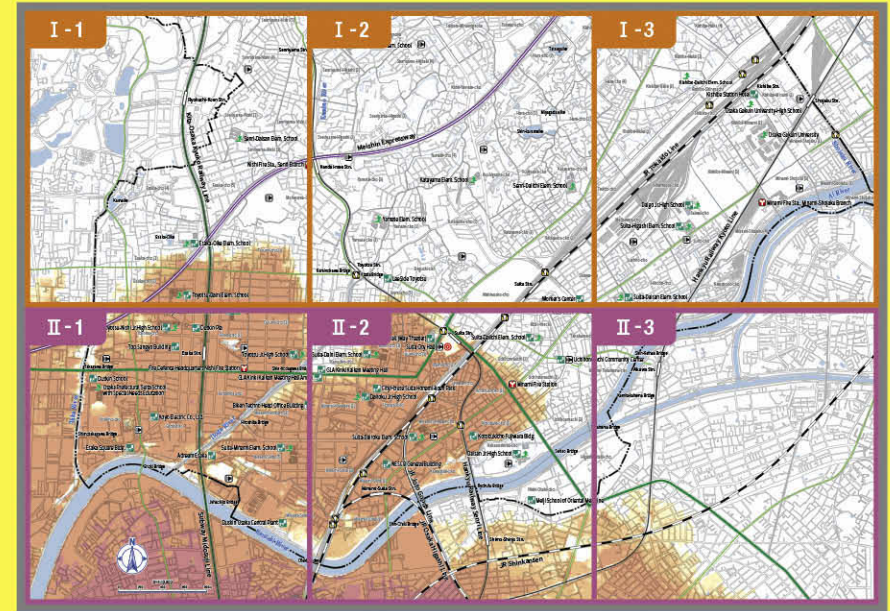
## [How to read the storm surge hazard map]

- This storm surge hazard map is an area on the coast of Osaka Bay (Osaka Prefecture section) where inundation is expected when flooding due to the largest possible storm surge stipulated by the provisions of the Flood Control Law occurs from the coast or river (It shows disaster prevention facilities such as storm surge inundation area), expected inundation depth, and evacuation facilities.
- It is considered that some rivers will be flooded by a certain amount of rainfall at the same time as the expected maximum storm surge due to the typhoon. On the other hand, we do not consider that the earthquake will affect the embankments.
- During actual storm surges, inundation may occur or the inundation depth may become deeper in places other than the estimated inundation area shown in this map.

Source: Storm surge inundation area map Explanatory material (Osaka Prefectural Government)

## [Basic conditions that are the premise of calculation]

- Central pressure of typhoon 910hPa
  - Muroto Typhoon (1945), which is the largest typhoon that has landed in Japan
- Typhoon movement speed 73km / hr (moves at a constant speed)
  - Set based on the Isewan typhoon so that the tide level deviation becomes large
- The course of the typhoon is assumed from multiple routes so that the range and depth of inundation will be the maximum expected scale.



### Legend of facilities etc.

- Designated emergency evacuation shelters (flooding & landslide disaster)
- Fire stations & outposts
- City Hall and city government outposts
- Disaster-prevention administrative wireless system (loudspeakers)
- Buildings for evacuation in the event of tsunami & floods
- Underground passages

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- National roads
- Prefectural roads
- Expressways
- Railways & monorails

### Storm surge inundation area

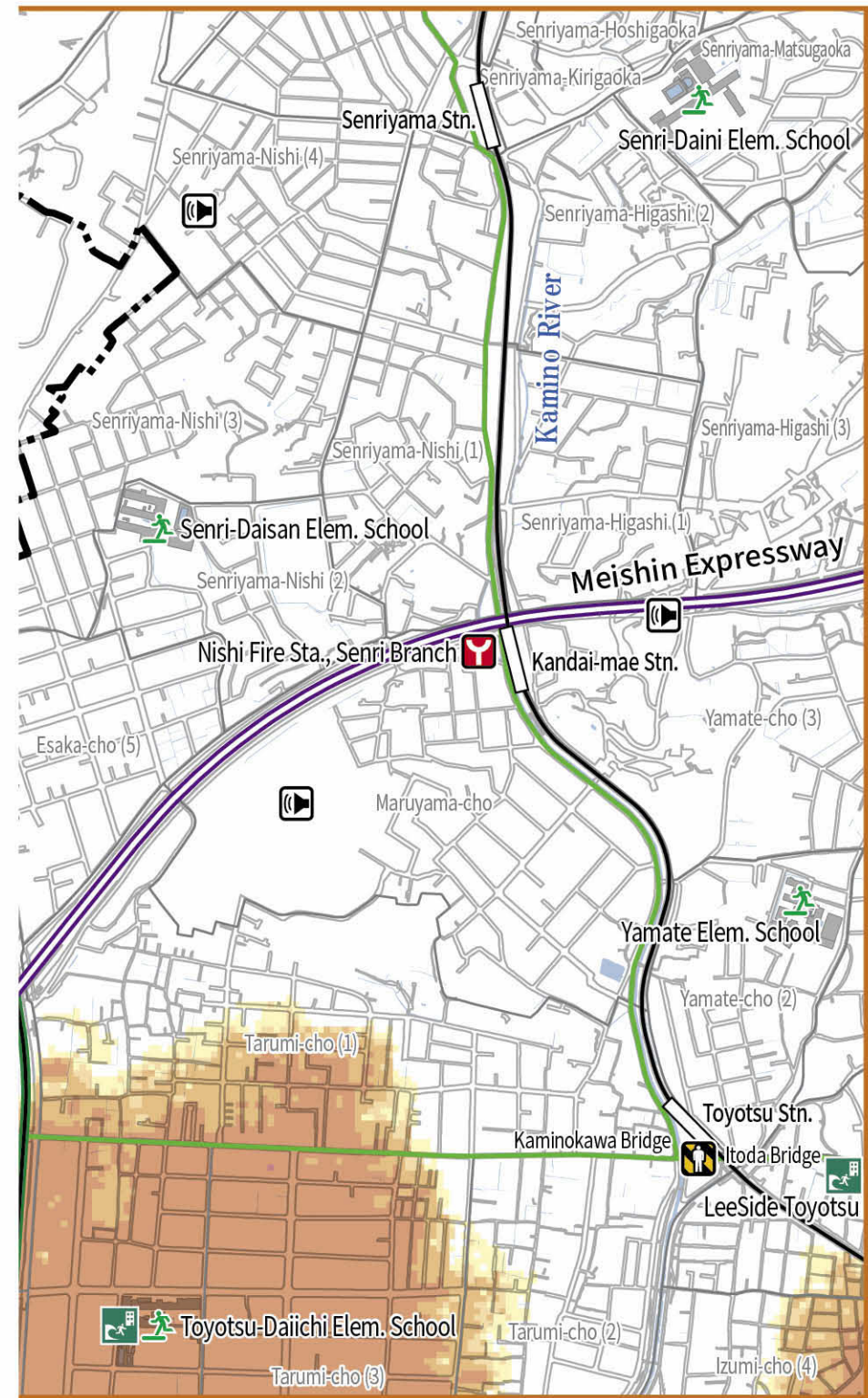
- 10.0 m or more
- 5.0 - less than 10.0 m
- 3.0 - less than 5.0 m
- 1.0 - less than 3.0 m
- 0.5 - less than 1.0 m
- 0.3 - less than 0.5 m
- Less than 0.3 m

### Inundation depth guidelines

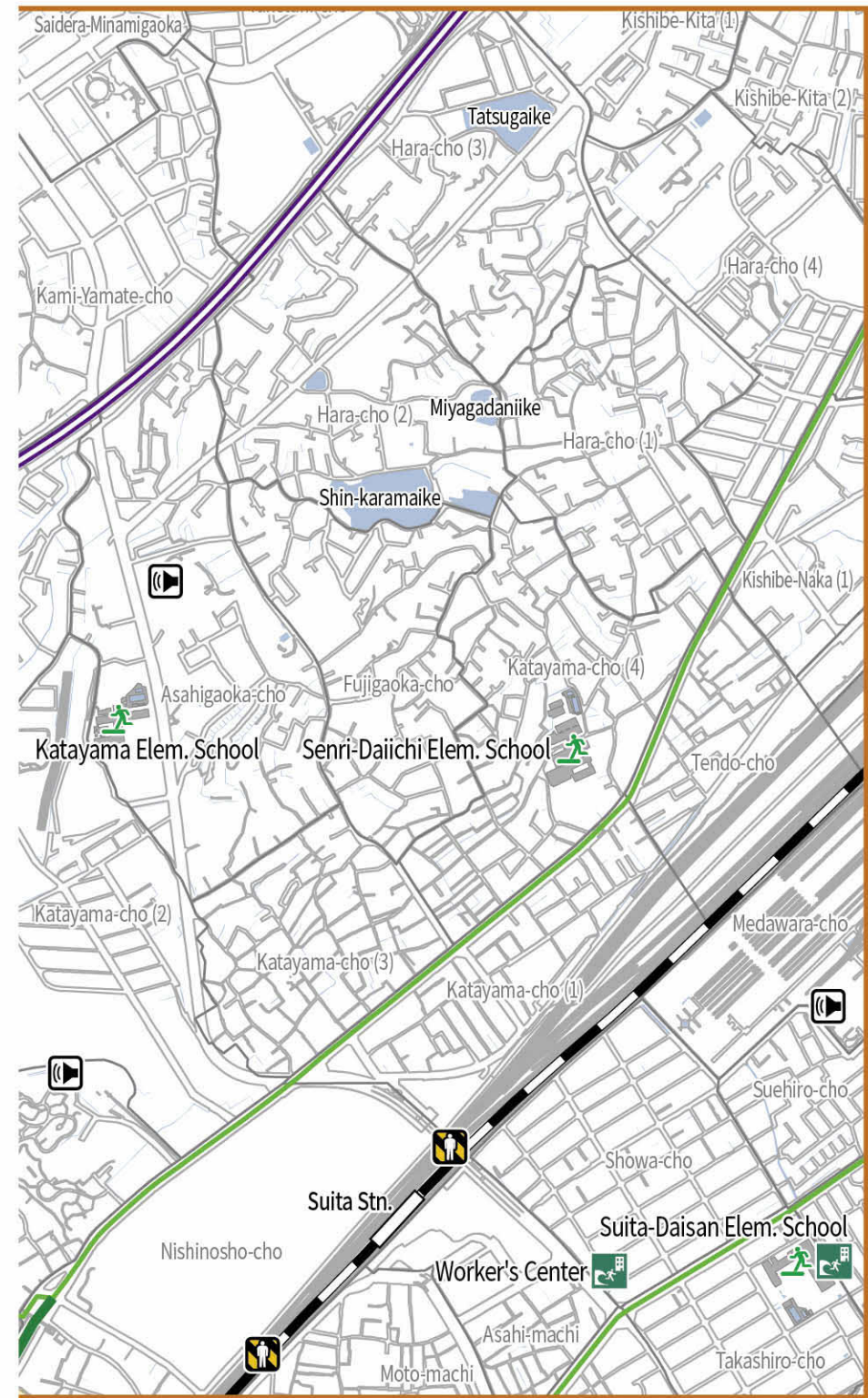
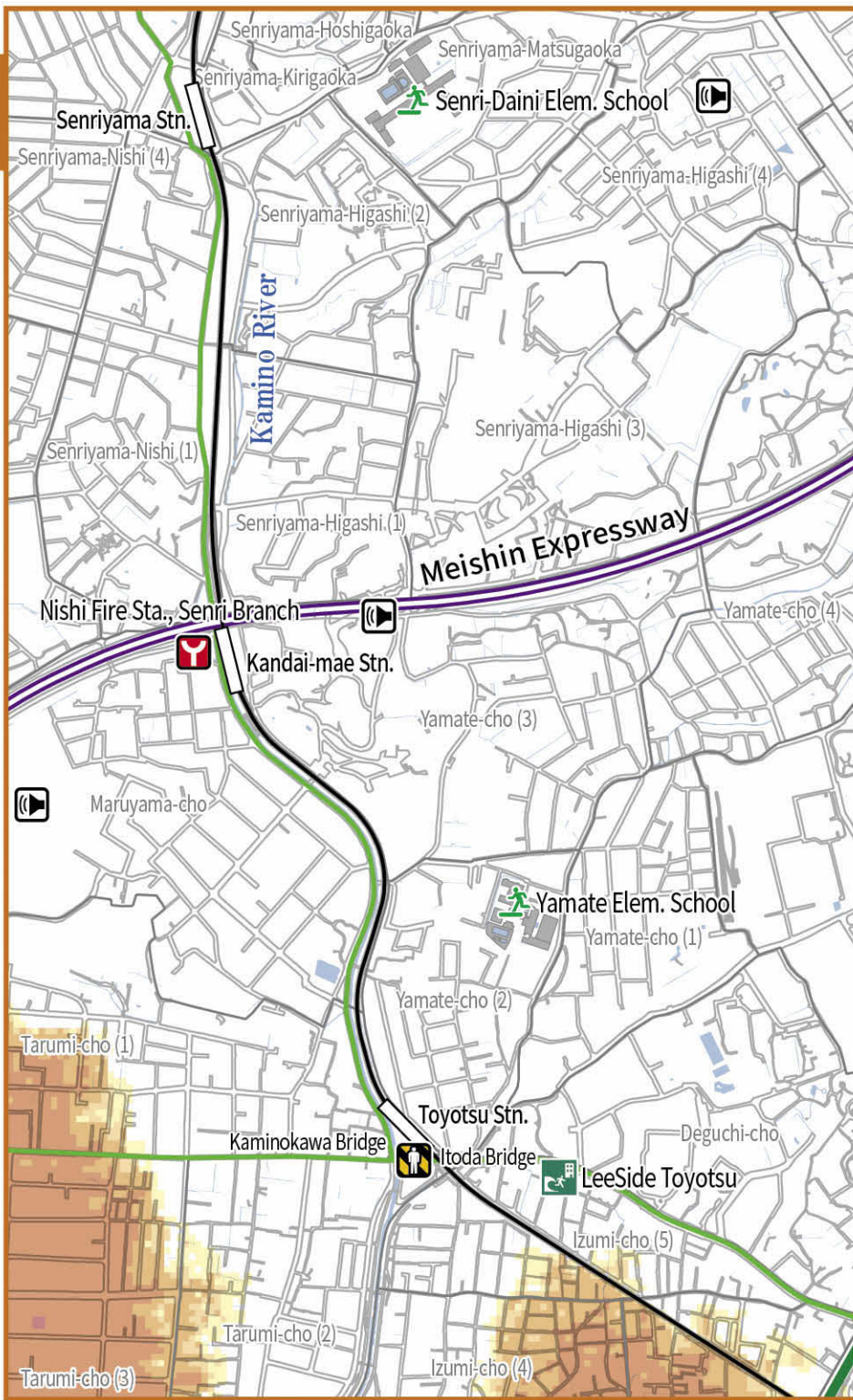
Published by General Affairs Department Crisis Management Office, Suita City 1-3-40 Izumi-cho, Suita-shi, Osaka / TEL: 06-6384-1753 (direct line) March 2022

In creating this map, we used the basic map information issued by the Geospatial Information Authority of Japan with the approval of the director of the Geographical Survey Institute. (Approved by the Director of the Geographical Survey Institute based on the survey method (use) R 3JHs 885)

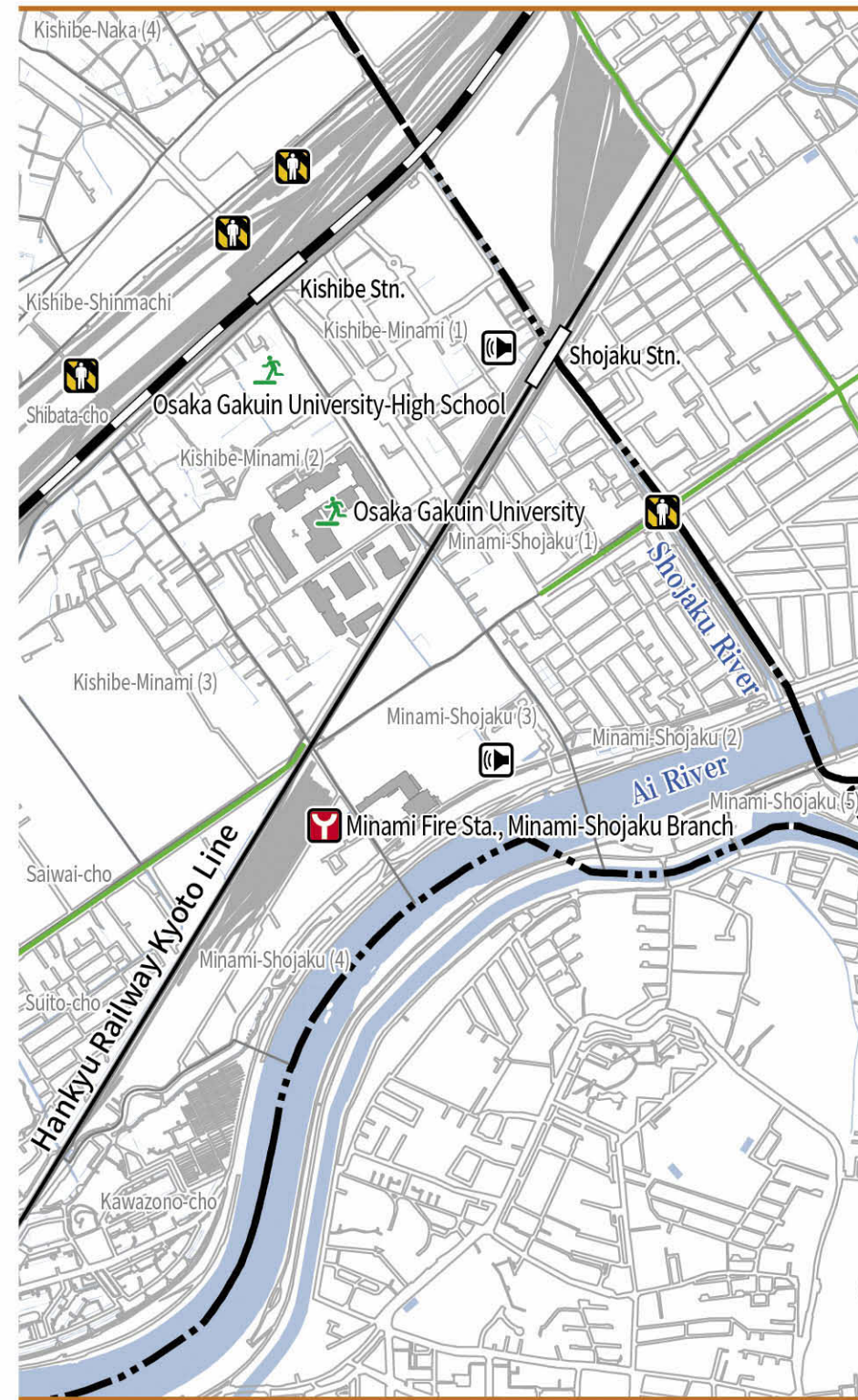
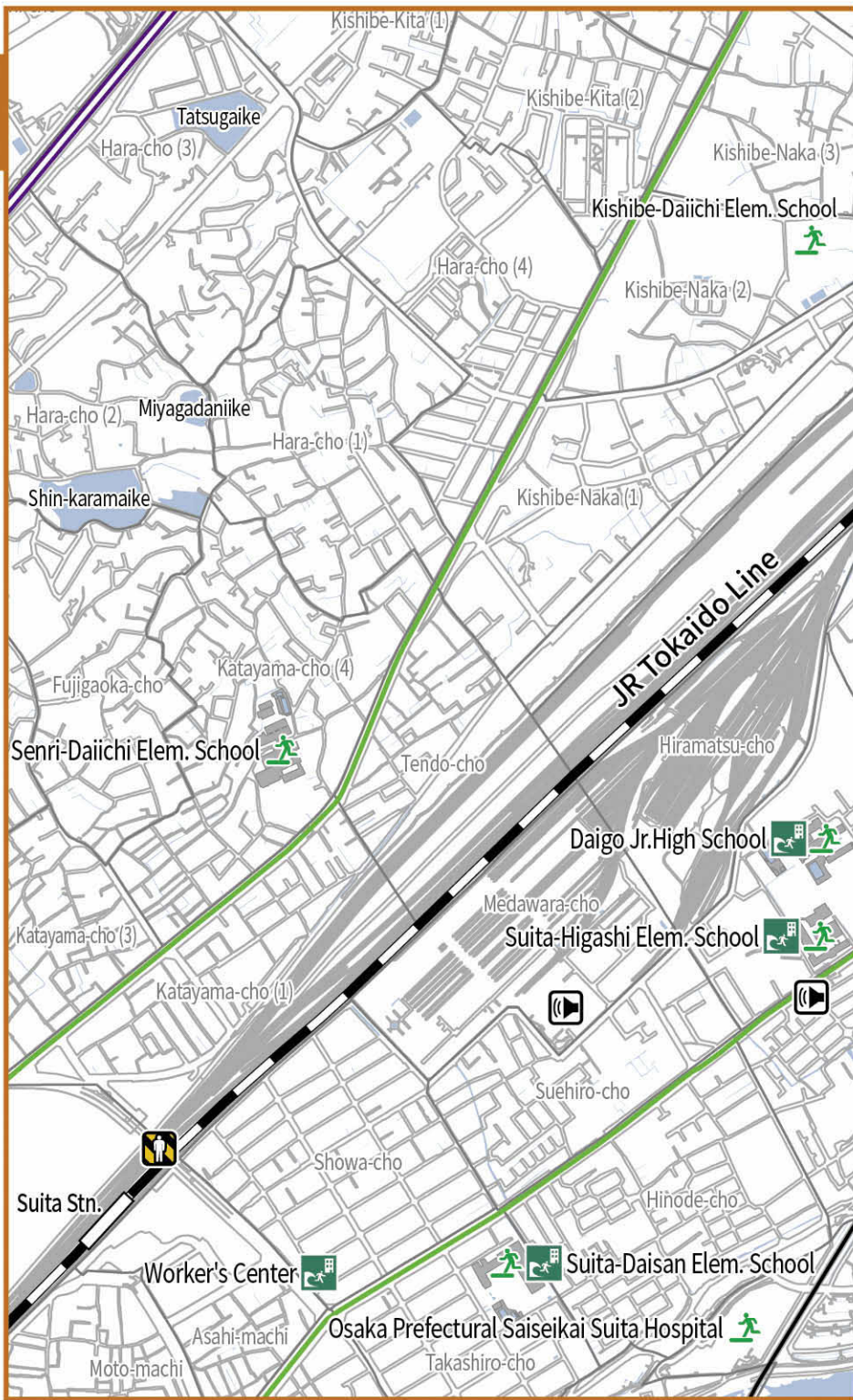




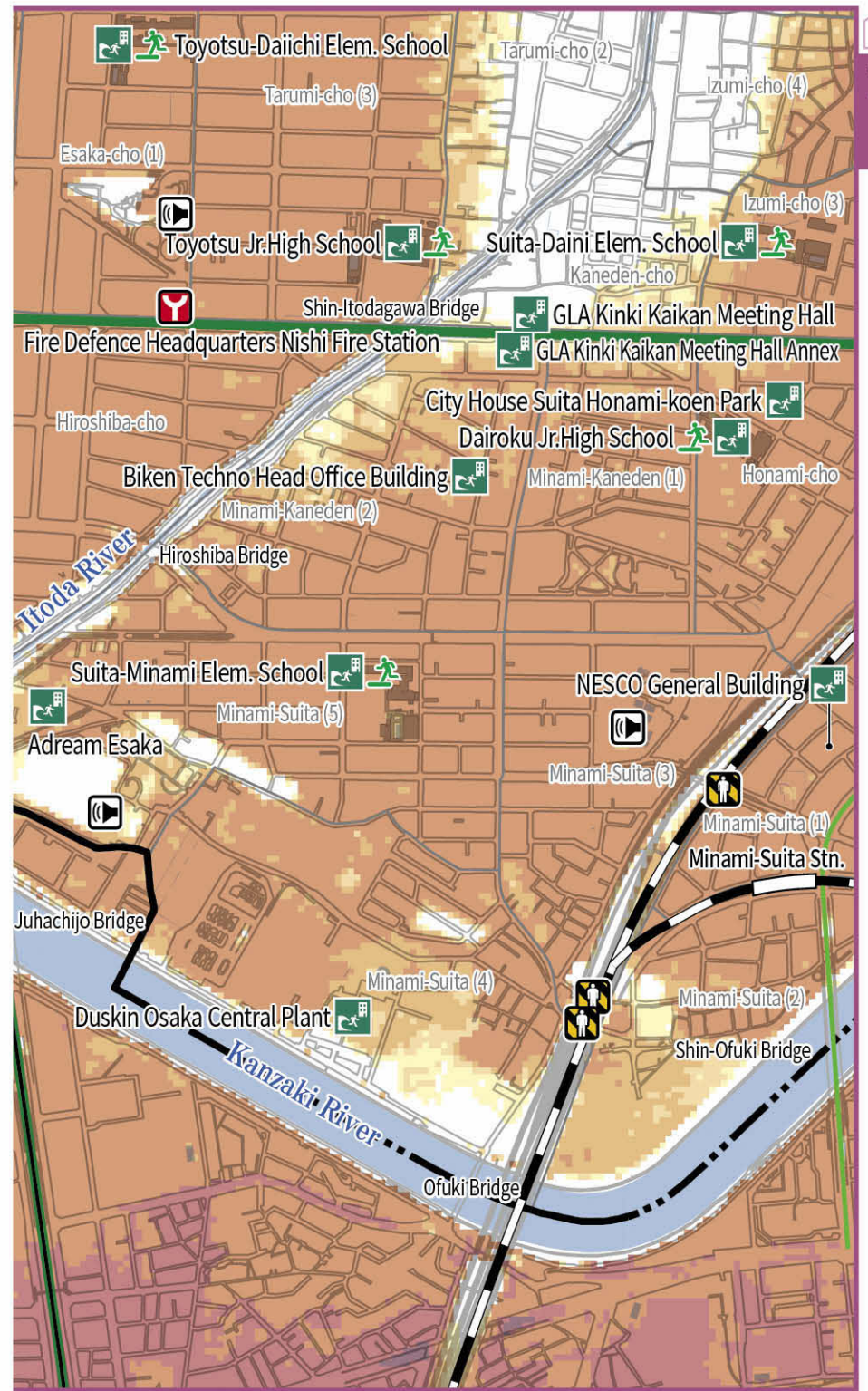
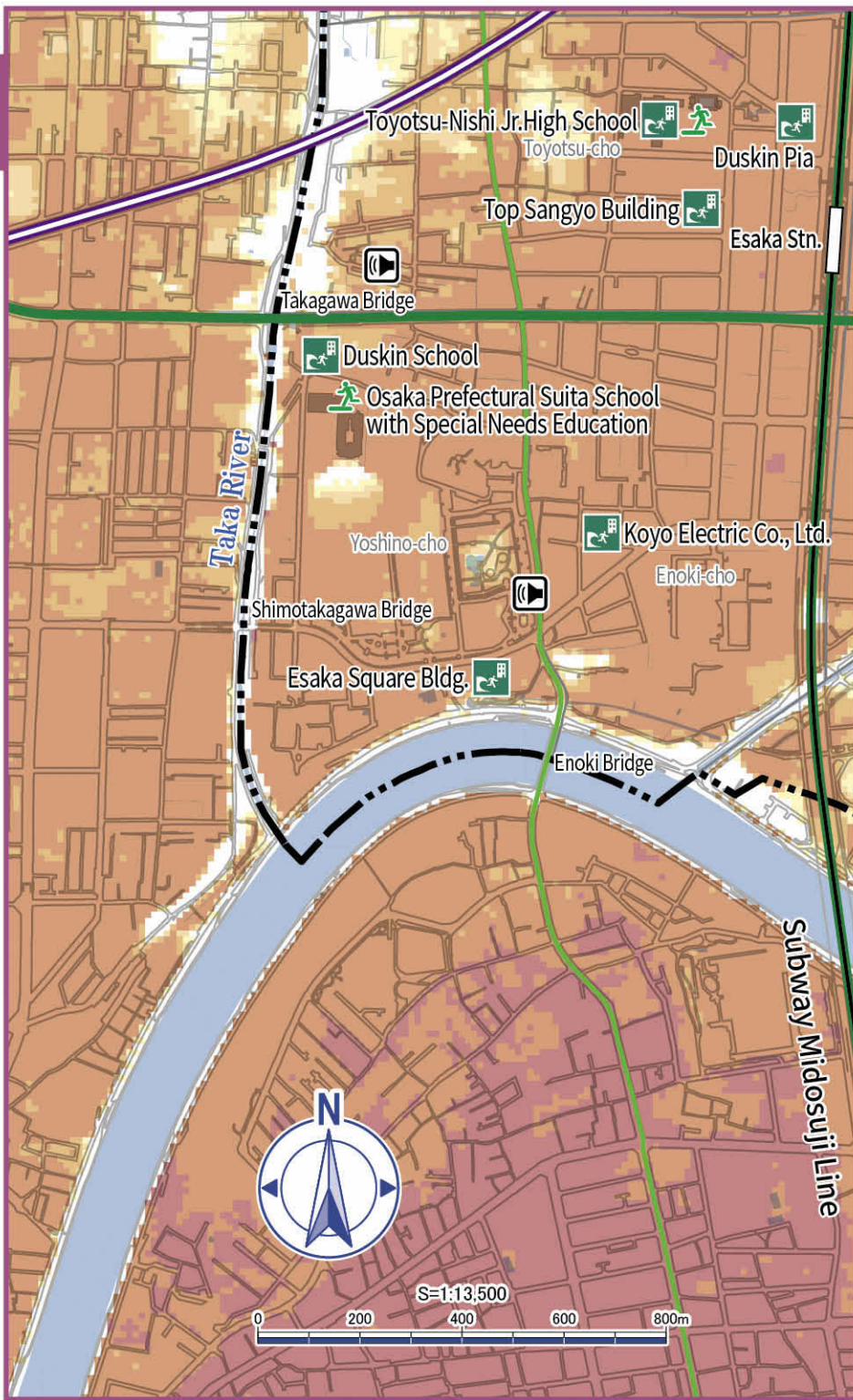




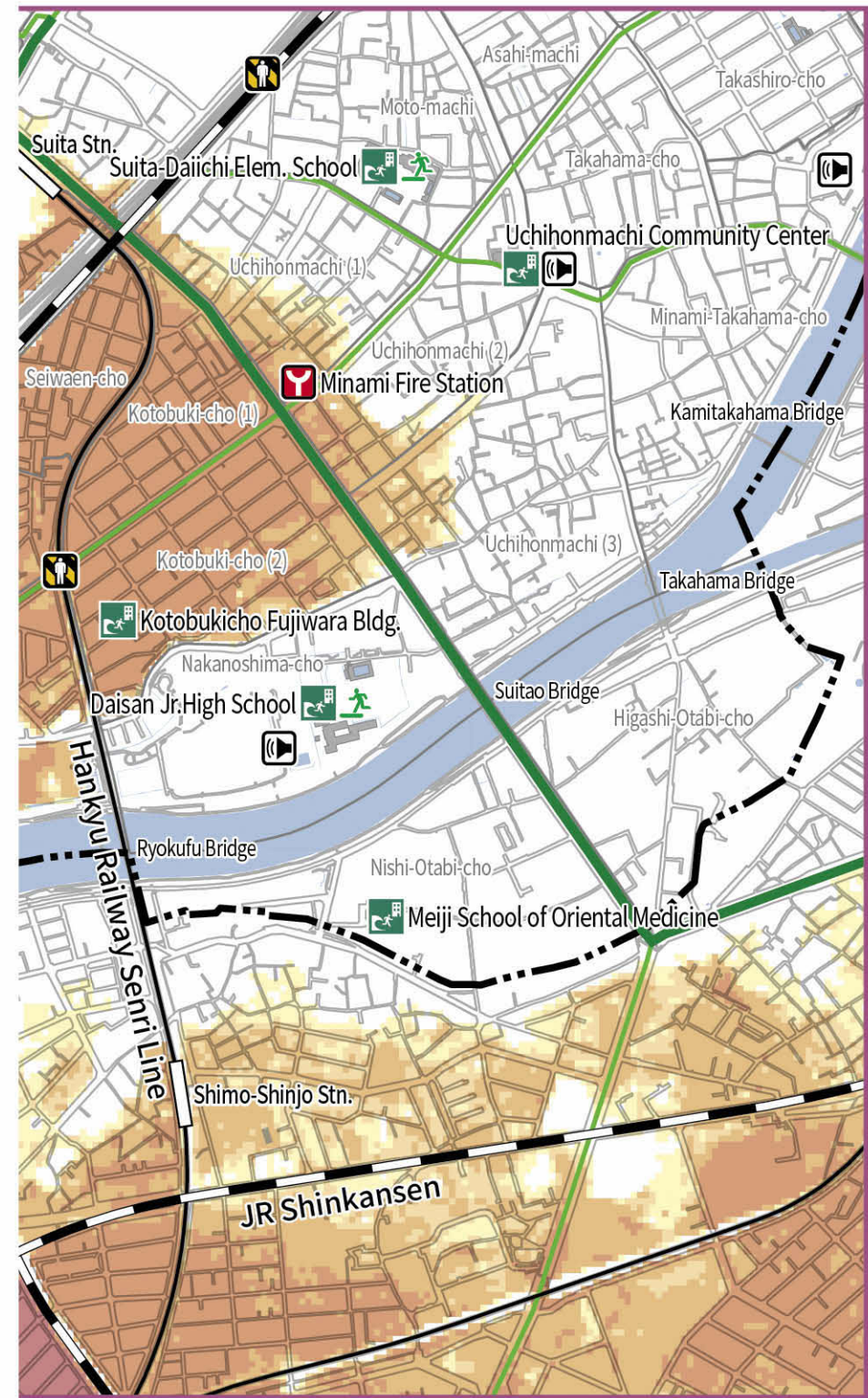




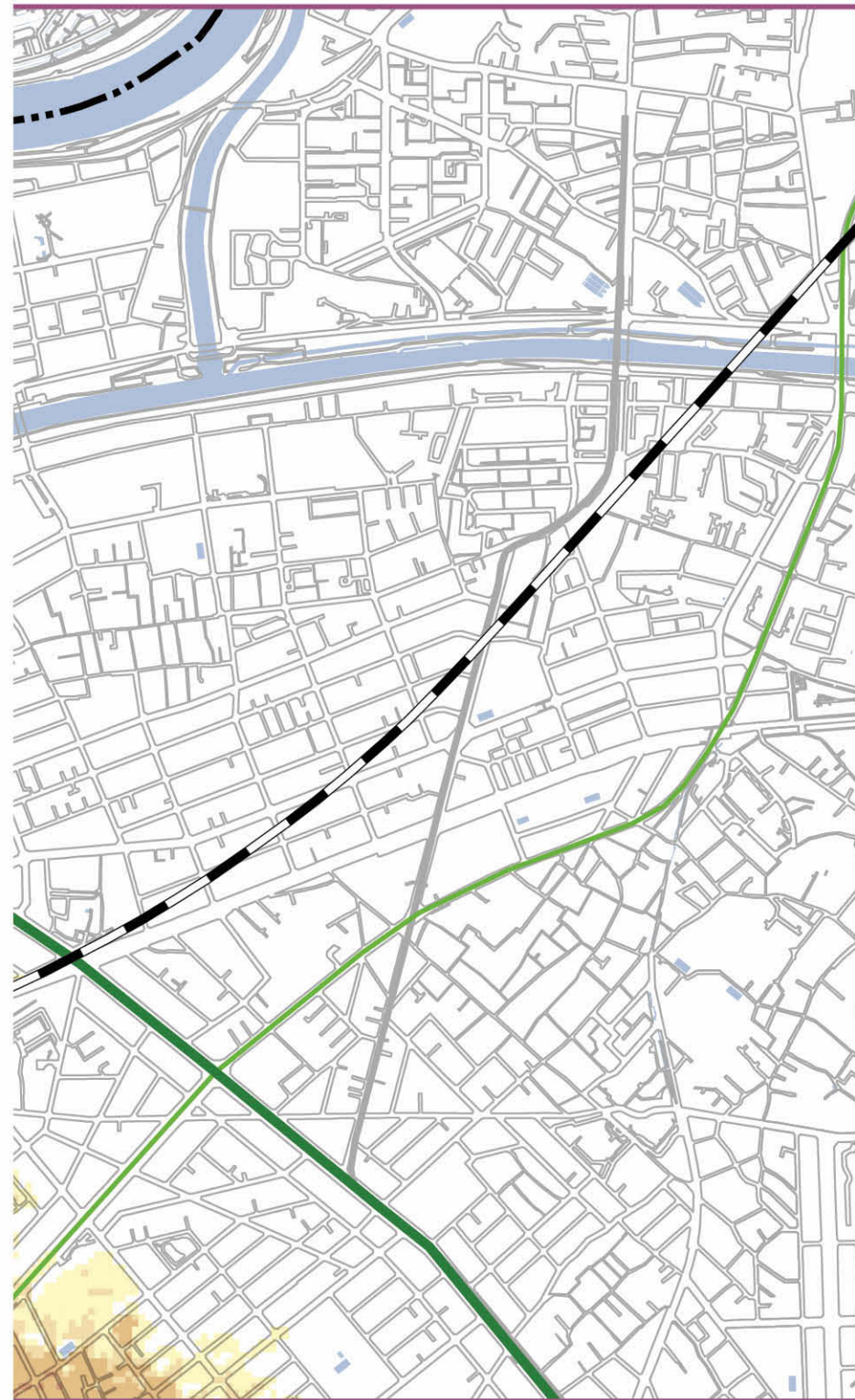
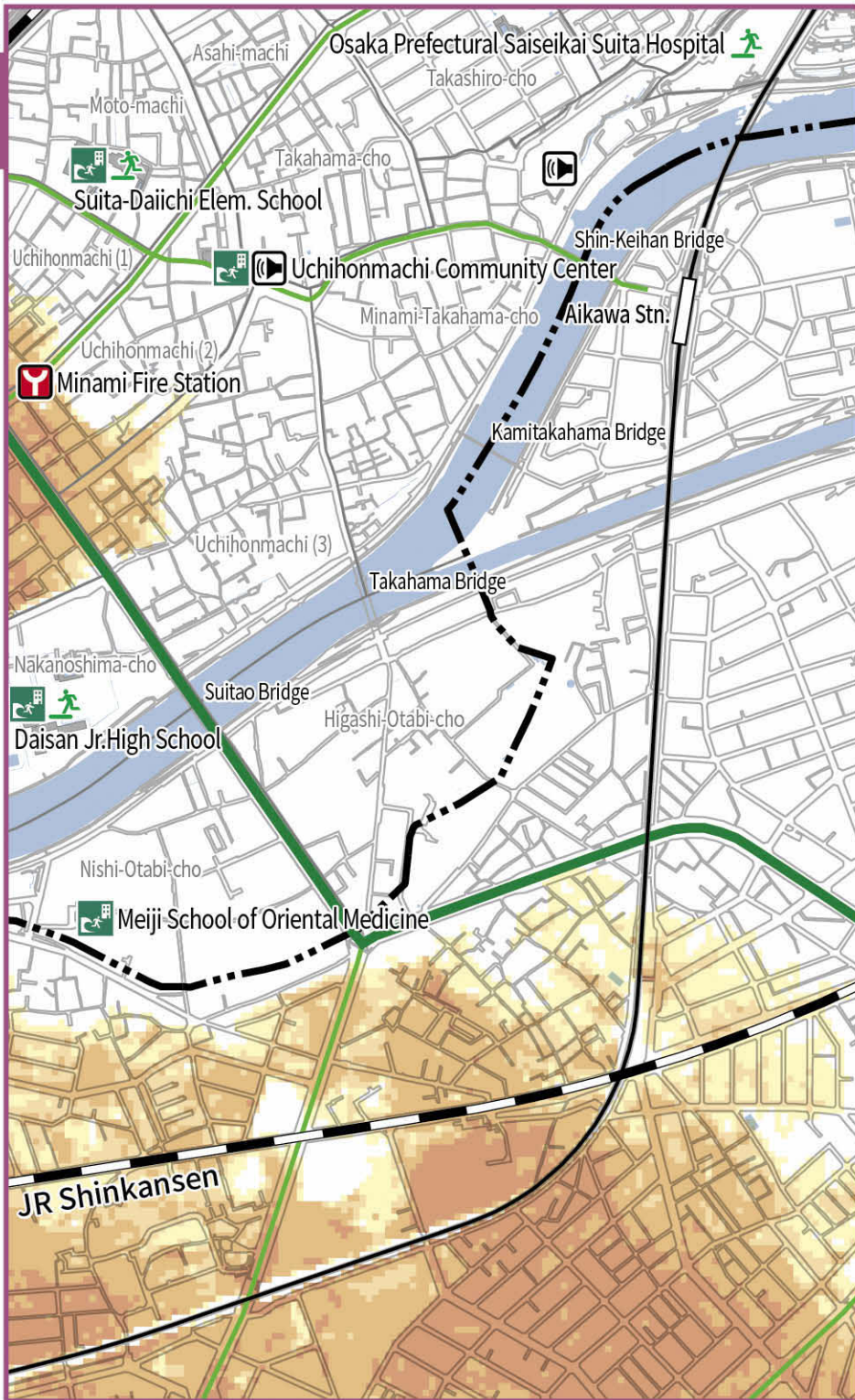




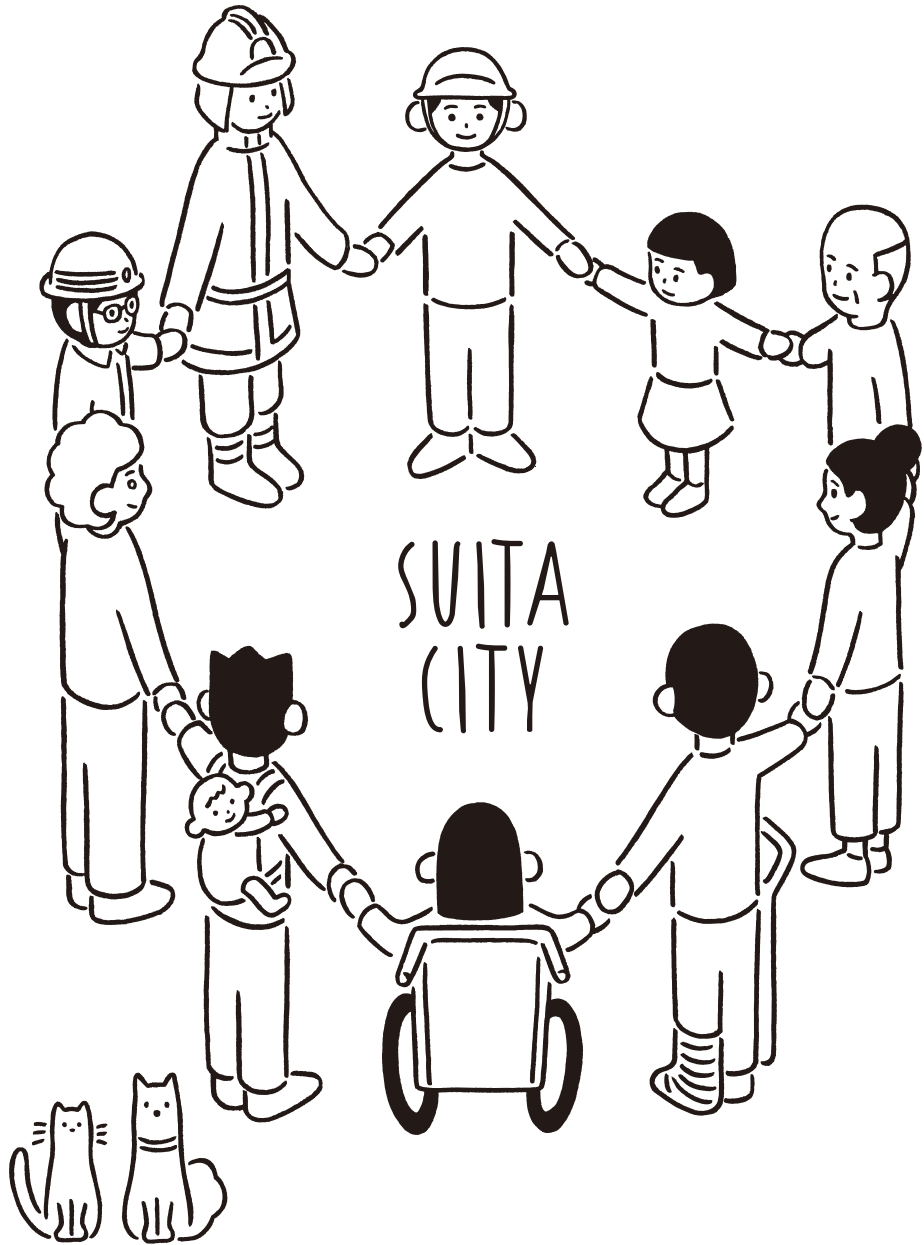












If an earthquake struck right now ...  
If severe storms battered the city for  
hours on end ...

By “knowing what to do, thinking  
about the situation and taking action,”  
you not only protect your life but can  
also protect loved ones and help  
friends and others around you.  
This is a very big first step toward  
making Suita a disaster-resilient city.

Right now is a good time to start  
preparing!



## Yoshiaki Kawata

Director & Specially Appointed Professor, Research Center for Societal Safety Sciences, Kansai University; Professor Emeritus, Kyoto University; (Concurrent) Executive Director, Disaster Reduction & Human Renovation Institution. Born in Osaka in 1946. After completing his doctorate at the Kyoto University Graduate School of Engineering, was a Guest Researcher at Washington University (USA), Fulbright Senior Researcher at Princeton University (USA), and Professor and Director at the Kyoto University Disaster Prevention Research Institute. Has served as Chairman of the Japan Society for Disaster Information Studies and Chairman of the Japan Society for Natural Disaster Science. Expert on large-scale disasters, urban disasters, risk management and disaster information.

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## Survey of Suita residents

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- Method: Online survey
- Target: Men and women age 20 – 69  
living in Suita City, Osaka Prefecture
- Samples: N = 1,030
- Dates conducted: 07/25 (Wed) – 27 (Fri), 2018
- Subject: Suita City, Osaka Prefecture

Crisis Management Office, General Affairs Dep., Suita City

City website: <https://www.city.suita.osaka.jp>

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Scan the QR code  
for more detailed information.

