

# About Environmental Assessment

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## 1. About Environmental Impact Assessment

An Environmental Impact Assessment System (EIA) is a system in which large projects are carried out.

It is a system in which businesses investigate, predict, and evaluate the environmental impact of their projects in advance, publish the results, and give proper consideration to environmental conservation and creation while listening to the opinions of residents, etc.

(From "How the Environmental Impact Assessment System Works" on the Osaka City website)



It predicts and evaluates how the environment will be affected when facilities are used together (use/presence) or **under construction (construction/demolition)**, and summarizes conservation measures and considerations for the environment.

Example) Air pollution and **noise** from vehicles and construction machinery, generation of vibration, drainage and waste, scattering of **contaminated soil**, and effects on the **animals and plants** that live in the area

## 2. Points to keep in mind during construction

### 2 -1. Construction related vehicles and construction machinery

#### ◆Reporting obligation

- Each contractor shall report the number of construction-related vehicles and construction machinery, etc., by using the environmental data reports listed below because the maximum number of vehicles, etc. is set as a prerequisite for environmental assessment.

#### ◆Prerequisite for setting the maximum number, etc. (Assumed condition)

##### •Construction related vehicles

- Types of vehicles and number of vehicles used per month: "Environmental impact assessment harm caused by the 2025 World Exposition, Japan" (see assessment WP 139 hereafter)
- For ships: type (push or barge), number of flights (# 100/month), gross tonnage (Pusher! 71 t barge! 079t)

##### •Construction machinery

- Type of construction machinery and number of units in operation per month: See Ryo on page 13 of detailed specifications.

- If the number of units in use exceeds the precondition, the Expo site general contractor is required to report the reason to the organiser.

•Each contractor is required to report the plans for work-related vehicles and construction machinery **to the section general contractor by the 10th of the previous month.**

- If the actual number of units used exceeds the plan, each contractor is required to **report the reason to the section general contractor.**

## 2 -1. Construction related vehicles and construction machinery

### ◆Regarding the passage of construction-related vehicles

- For the transportation of construction materials, the use of the northern route should be prioritized as much as possible, and the use of the central and southern routes via the Yumesaki tunnel should be minimized.
- The rice field route via the Konohana-Ohashi Bridge and the Yumemai-Ohashi Bridge should, in principle, use the Hanshin Expressway as a ride-O  
\*- In the event that a project becomes unavailable, etc., promptly report and inform the section general contractor of the reason.
- At the time of construction related to Yumeshima, or when events are held in Maisu or Sakisu, the organiser and Osaka City may coordinate and ask for consideration regarding the time of travel and the route. -
- When materials are brought in by ship, etc., the ship will dock at the revetment on the north side of Yumeshima.

## 2-2.About the soil

When excavating, water should be sprayed in accordance with the Soil Contamination Countermeasures Law.

When vehicles related to construction leave the planned site, tires should be cleaned to prevent soil and sand from being removed from the planned site.

## 2-3.About waste, soil and sludge

### ◆Assumptions (assumed conditions) with upper limits

- Waste recycling rate: As shown in the table below (See Appraisal Report, page 469)

Type	Recycling rate (%)	Source
Concrete block	99.3	
Ascorn block	99.5	Construction Recycling Promotion Project 2020 (the Ministry of Land, Infrastructure, Transport and Tourism)
Wood waste	97	
Mixed waste	63.2	
Glass ceramics	73	
Waste plastics	59	Report on the Survey of Industrial Waste Discharge and Disposal Results for Fiscal 2019 (the Ministry of the Environment)
Metal scrap	96	
Paper scrap	77	
Gypsum board	86	Recycling crew in the construction industry Recycling gypsum board (Japan Federation of Architects' Associations)
Other	63.2	Same as mixed waste

Note:Recycling rate includes recycling rate and recycling/reduction rate

- Sludge recycling rate: 95% (See Appraisal Report, page 473)

As a general rule, pile foundation work shall be carried out by the no-discharge method.

- Remaining soil volume: 0 m<sup>3</sup> (used in the entire site for backfilling etc.) (See Appraisal Report, page 473)

## 2-4.Bird measures (1)

The Yumeshima site is **home to a large number of birds** (many migratory birds) that are classified as '**endangered species**'.

### ◆Major birds found breeding in Yumeshima

#### Little terns (about 30 ornamentals)

- Flying in mid-April, nesting/breeding, Flying around September (wintering in the southern hemisphere)
- Nesting in groups (colonies) on bare ground



#### Little plover (about 20 cm, about sparrows)

- Flying in late winter, nesting and breeding, then flying away in midsummer
- Making nests (depressions) on bare ground and laying eggs (mimicking pebbles)



#### stilt (about 40 cm)

- Breeds from spring to summer (It also flew and spawned in 2022)
- Nest in wetland plant communities at the water's edge



These wild birds **are prohibited** under the Wildlife Protection and Birds Act from being **caught or collected** ("Movement and removal of nests" with eggs and chicks is also against the law) Violation (offender): Imprisonment for up to 1 year or fine of up to 1 million yen

◆**If they lay eggs, the period until the end of breeding is called 'construction stop'**

## 2-4.Bird measures (2)

### ◆Assumptions

- Do not allow nests to be built
- If eggs or chicks are found, construction must be suspended and entry must be prohibited

### ◆Details of measures (implemented by the contractor)

- Period: The terns and others using the bare ground fly in the middle of April and fly away around September.
- The most dangerous condition is that the vacant land is left unattended, and investigation before the start of the field work is carried out.  
It is necessary to take measures intensively when there is a limited number of people coming and going, such as from the completion of construction to delivery.

### ○ Facial measures to prevent nesting

- Grassification of sandy and gravel areas
- Chemical spraying such as fixing (asphalt emulsion)
- Coating with blue sheets, cold sheets, etc.
- Laying bird-proof nets
- Installing bird-proof tape and streamers



(Planar measures) Spraying chemicals



(Planar measures) Blue sheet coating

## 2-4.Bird measures (3)

### ◆Measures to be taken (implemented by the contractor)

#### ○ Measures to prevent nesting due to artificial pressure, etc.

- Measures to prevent nesting due to artificial pressure, dogs, etc.
- Others (Explosions, models of natural enemies, repellent sounds, etc.)

※ Consider and take measures to prevent nesting in as many areas as possible according to the construction process;



(Measures due to human pressure, etc.) Repellent sound

○ **Strengthen and thoroughly implement measures (especially at night and on holidays) when bird traffic is confirmed.**

○ **In areas scheduled for the construction of the next stage (construction work of each pavilion, etc.), take measures** until the site is handed over, even after the completion of on-site work.

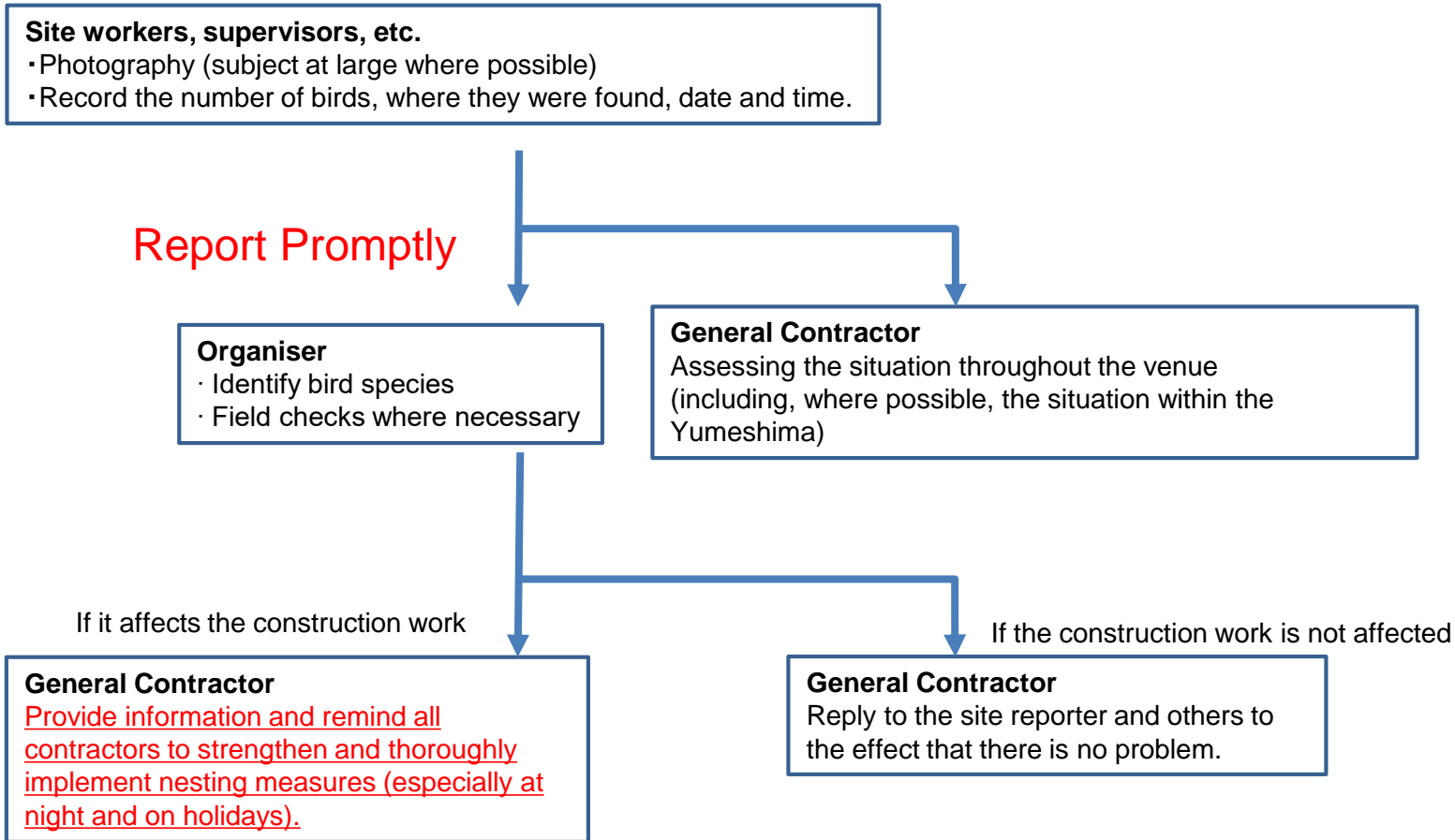
**Make sure there are no obstacles.**

○ In areas where site work has been completed and there are no plans for the next stage work, if the work is being done on adjacent land, there **is a risk that bird nesting may restrict work and entry in the adjacent land**, so measures to prevent nesting should be considered and implemented as appropriate.



2-4. Bird measures (4)

◆ What to do when rare species arrive



Little terns flying in



Little tern breeding behavior

\*Since nesting leads to **suspension of construction work**, we ask that field workers be aware of the above **reports**.

\*If you are unsure about the species of birds, please **report to and consult with the association**.

2-4. Bird measures (5)

◆What to do when nesting

**Site workers, supervisors, etc.**

- Photography
- Record the location and date of discovery
- Suspend construction around the location of discovery
- Prohibit workers from entering



Little Tern Eggs



Examples of Off-limits Measures



Example of Instruction Posting

Report Promptly

**Site workers, supervisors, etc.**

- Providing information to adjacent landowners
- Enforcement of off-limits measures

Now, check the area to see if there are any other nesting sites.

- Set up barricades in the area of about 10 m square and prohibit entry.
- Dissemination through signage

**Organiser**

- On-site check on enforcement of curfew measures
- Regular observation according to situation
- Examine the timing of cancellation of measures, etc., and instruct the supervising contractor each time

\*It is basically necessary to temporarily suspend construction of the surrounding area until the chicks have left the nest.

\*It is important to take thorough measures to prevent nesting so that construction work is not temporarily suspended due to nesting.

## 2-4. Bird measures (6)

### ◆Points to keep in mind during construction

- **Prevention of unnecessary entry of construction personnel outside the construction area**
- Use **low-noise, low-vibration construction equipment** as much as possible
- **Minimize nighttime construction** and use **shading hoods**, etc.

### ◆Potential sites for bird use

- Birds using bare land (terns, etc.)
  - The association is coordinating with the city of Osaka so that they can be guided outside the planned venue (mark 0 in the figure).
- Birds using the waterfront (snipe, plover, etc.)
  - **Sedimentation pond of the Sea of Connection (Fig. (2))**  
→ **Please inform the site not to enter unnecessarily** now.
  - The association is also coordinating with the city of Osaka on **measures to be taken in some parts of the border area** of the Sea of Connection

## 2. Points to keep in mind during construction



凡例

会場予定地

① 朝三日月

② 朝沈殿池

③ 朝子の他

## 2-5.Reporting Environmental Data

### ◆Environment-related data reports

- Construction related vehicles: vehicle type, route used, number of vehicles
- Construction equipment: machine type, specifications, countermeasures designated by the Ministry of Land, Infrastructure, Transport and Tourism, number of vehicles, operating hours
- Waste related: items, amount generated, amount recycled, amount disposed, recycling rate, amount of construction generated soil, disposal destination, amount disposed at site
- Infrastructure related: amount of human waste disposed, amount of electricity used, amount of drinking water used, amount of rainwater discharged, amount of sewage treated other than human waste

#### •Report content and due date

Report the **results of the previous month and the plan for the following month** to the supervising contractor of the work **by the 10th of each month**.

If the results of the previous month exceed the plan, the reason should also be reported.

Submissions should be made by e-mail.

If the Hanshin Expressway can not be used for the operation of construction-related vehicles on the north route, the reason should be reported **as soon as it is known** to the district supervising contractor.

#### ◆Other items that **need to be reported as soon as necessary** (Designation form will be shared separately)

- Reporting on bird responses

## 2-5.Reporting Environmental Data

### ◆Flow of environmental data reporting

#### Each contractor

- Collection and arrangement of performance data for the previous month
- When performance exceeds the previous month's plan (in the case of creating a reason)
- Creating a plan for the next month

Submitted by the 10th



Reminder - Request for resubmission



#### Each section general contractor (4 section)

##### Reviewing Data

- Submissions from all vendors
- No omissions in plans or performance
- Know why performance exceeded plan

## 2-6.Treatment of domestic wastewater

- ◆The treatment of domestic wastewater by each contractor (in principle, the **total amount of domestic wastewater shall be recovered by pumping.**
- ◆When each contractor wishes to install a septic tank
  - Since the **entire site needs to have less than 1800 septic tanks,** the installation (  
Consult with the Expo general contractor.
- ◆Compliance with the installation of septic tanks
  - To be of **advanced treatment type.**
  - As a general rule, treated water should be **used in medium water** and should not be discharged into sea areas (.
- ◆Use of medium water
  - Consideration should be given to **using the entire amount as watering to prevent dust from scattering or as watering for planting.**
  - Only when medium water is not available, such as in stormwater,** is it **discharged** from the spillway via the Sea of Connection through storm drains.

### 3. Major Environmental Conservation Measures

#### 3-1. Air, noise, vibration and low-frequency sound

◆ When running construction-related vehicles, we plan to take care to minimize the impact on the surrounding environment, such as [selecting appropriate routes, giving consideration to traffic time zones](#), improving transportation efficiency, informing drivers of proper driving, and managing the operation of construction-related vehicles.

In addition, [construction at night and on holidays is not carried out as a general rule](#), but if it is unavoidable, construction should be carried out with due consideration to noise and other factors.

◆ In the operation of construction-related vehicles, the number of undercarriages of construction-related vehicles should be reduced by promoting ride-sharing and avoiding, as much as possible, the busy hours of morning and evening commuting.

◆ Traffic safety education for construction-related vehicle drivers should be thorough, [such as giving priority to pedestrians, etc., and checking the safety of pedestrians when entering intersections and making right and left turns](#).

◆ Regarding transportation of construction materials, consideration should be given to the traffic hours of vehicle routes, drivers should be informed of proper driving, and operations of construction-related vehicles should be managed.

◆ Ships should be properly maintained and inspected to control the increase of air pollutants in exhaust gas due to poor maintenance.

◆ When sailing ships, efforts should be made to optimize the speed of navigation and to ensure that all parties concerned are informed not to operate under heavy loads.

◆ A temporary enclosure is placed around the construction area, and water is sprayed and tires are cleaned as appropriate to prevent the generation and scattering of dust.

◆ [Efforts are made to adopt the latest emissions-control type construction equipment at the time of construction](#), and appropriate construction management is performed, such as preventing the construction equipment from running empty, encouraging idling stops and avoiding simultaneous operation as much as possible.

◆ Efforts are made to adopt construction methods that are less affected by noise and vibration, such as the introduction of low-noise and low-vibration type construction equipment and rotary indentation type pile construction methods.

### 3-2. Water quality and soil

- ◆ Collect and properly treat sewage, including domestic wastewater, during construction
- ◆ Avoid earthworks during heavy rainfall as much as possible to control the generation of turbid water.
- ◆ The plan is to remove SS by allowing rainwater and other water during construction to flow into the "Sea of Connection" site on the south side of the site and pass through the site. The plan is also to discharge alkaline effluent from concrete placing through the existing spillway via the "Sea of Connection" after pH adjustment.
- ◆ When excavating the soil, measures are taken to prevent the scattering of the soil, such as sprinkling water in accordance with the Soil Contamination Countermeasures Law.
- ◆ When participating in the scheduled site for the construction related vehicles, cleaning of tires, etc., will be implemented to prevent the removal of the attached soil from the scheduled site ◆ In Yumesu
- ◆ In Yumeshima Section 1, the plan is to maintain a 50cm cover, fill the area with fill as part of the project, and excavate only the fill layer.

### 3-3. Waste and Remaining Soil

- ◆ As a general rule, sediment generated during construction work should be used for filling and backfilling inside the site and should not be carried out outside Yumeshima.
- ◆ Efforts will be made to reduce the generation of waste generated during the dismantling of facilities by selecting construction materials with consideration for reuse and recycling.
- ◆ Efforts will be made to establish guidelines for pavilion construction and promote the recycling of construction materials.
- ◆ As much as possible, the pavilion will be sorted by type on site and handed over to an intermediate processor for recycling as recycled aggregate, roadbed material, recycled chips, etc.
- ◆ Recycled products should be used as much as possible for construction materials used, and efforts will be made to contribute to the promotion of construction recycling.
- ◆ Efforts will be made to reduce waste by reducing waste generation by simplifying packaging materials and separating waste by sorting containers.
- ◆ Sludge generated by piling work, etc. will be properly treated as industrial waste by recycling, etc., in accordance with laws and regulations.



### 3-4. Animals, plants and ecosystems

◆ Prevent unnecessary entry of construction personnel outside the construction area.

◆ When construction is carried out at night, the construction will be kept to a minimum, and the effects on the animals and plants that live and inhabit outside the planned site and (tentative) Maishima parking lot will be reduced as much as possible by the adoption of appropriate shading hoods and the proper arrangement of lighting fixtures.

◆ For terns, if they are confirmed to be flying in the planned site and (tentative) Maishima parking lot, measures will be taken to prevent nesting such as covering with bird nets in accordance with the Guidelines for Conservation and Consideration of Terns' Breeding Sites.

In addition, if nesting is confirmed, consideration and measures will be taken such as prohibiting entry in the vicinity in principle.